THE LIGHT-BEARING LOGOS:

THE CONNECTION BETWEEN SPIRIT AND MATTER

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by
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ABSTRACT

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From the field of Natural Theology, this dissertation provides a description of the connection between the realm of Spirit/Light/*Logos* and the realm of dark matter in terms of Light as the inter-connective element. By incorporating an understanding of the nature of matter as provided by contemporary science, rather than mechanistic science, the connection is presented in natural rather than supernatural terms. Contemporary science, in particular, Quantum Electrodynamics, Complexity Theory, and Neuroscience describe matter as energetic, in-formed, light-filled, inter-relational, adaptable, and capable of producing emergent forms which transcend previous states. This is in contrast to Mechanistic Science which historically has philosophically defined matter as hard, inert, having no internal power of its own and incapable of exerting power. Historical philosophic and religious cosmologies will also be presented which had described the world of matter as en-souled, energetic, generative, light-filled, and reflective of the divine *logos*/reason. Such cosmologies were set aside in favor of what would become the dominant worldview of first, the Aristotelian-Thomistic model and later the current Mechanistic-Supernatural worldview. Supernatural Theism was combined with the Mechanistic model of Nature in the seventeenth century and its adoption was sponsored by the Church. There is a tendency in modern biblical commentaries to reflect the Mechanistic-Supernatural worldview, rendering the connection of Spirit upon matter in

"Supernatural" terms or simply to remain silent on the nature of the connection all together. This dissertation seeks to advance the field by providing a view of matter as light-filled, in-formed, and transcendent, with Light as the inter-connective element between Spirit/Light/*Logos* and matter. Form critical exegesis will be provided for sample texts which present the connection between Spirit and matter.

Acknowledgements

The concepts within this dissertation arose from a variety of sources at Claremont School of Theology, as well as from life experience. Having had many experiences since childhood of what can only be described as the spiritual realm of light breaking forth within everyday experiences, yet hearing all throughout school including undergraduate studies that only experiences in the physical realm were considered valid created an incongruity. The two worlds ran parallel, in conception if not in experience. Only in graduate studies in classes taken with David Griffin did these two realms begin to form a synthesis. He emphasized the significance of non-mechanistic science, such as quantum theory and its relevance for the philosophy of religion and religious experience. When Prof. Griffin retired, Stephen Kim, a Templeton Award recipient became chair of the committee and shared with me his bibliography of works in the field of Science and Religion. I read each of these works, as well as the works cited in the footnotes. Electromagnetism, Complexity Theory, and Neuroscience where the building blocks which allowed a conceptual bridge to be formed between the world of religious experience and the physical world. In terms of presenting and organizing this "answer," Greg Riley, Professor of New Testament and Greco-Roman religions would provide the historical "question." He also suggested the concept of the *Logos* as an early answer to the connection between the spiritual realm and the physical realm. Prof. Marvin Sweeney required that, whatever the dissertation be on, it incorporate Form Criticism. While pondering how the two seemingly incongruous concepts would fit together – the bridge between the spiritual and physical realms and Form Criticism – in the last section of the dissertation, in the exegesis of biblical texts, it was nothing short of a Zen moment when the "form" of the text itself revealed insight into the meaning of the text, exhibiting the very concept of the *Logos,* the Divine, intelligent forms *in* physical matter. In terms of finding the gem within, I would also like to thank the thesis secretary, Elaine Walker for introducing to me the concept of "books in a series," which opens up a whole new world to explore. And lastly, I would like to thank Prof. Dennis MacDonald, "the Good Dean" for believing in me.

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CHAPTER ONE

BIBLICAL INTERPRETATIONS OF THE SPIRIT-MATTER CONNECTION

Introduction

This dissertation offers a description of the connection between the realm of Spirit/Light/*Logos* and the world of matter in natural, as opposed to supernatural terms, by bringing forward a definition of matter provided by contemporary science as inter-relational, light-filled, energetic, information-rich, and capable of transcendence. The interconnection will be presented in terms of light. It has long been noted that science and theology have had a symbiotic relationship.[1] Descriptions of the interconnection of Spirit and matter are dependent upon cosmological descriptions, specifically how each term – spirit and matter – is defined within that cosmology. Today, within a Cartesian-Newtonian Mechanistic cosmology, the relationship between Spirit and matter tends to be described as "supernatural" intervention without offering further explanation.[2] C. F. D. Moule states that Spirit is generally taken to mean by most people the opposite of matter and whatever transcends the material or belongs to the other world.[3] New concepts of matter transcending itself are offered by the science of Complexity Theory which provides natural explanations for transcendence of previous systems. Electrodynamics and the Biological sciences indicate that light (photons) is an essential element of matter itself arising from the background quantum field and constitutive of all matter, inorganic and organic.[4] From Neurobiology, information from the environment taken in through the senses in the form of energetic waves literally becomes light as it is processed through the brain, creating *new* neural pathways which transcend the old, leading to new perceptions, a higher consciousness. This is literally en-light-en-ment. The thesis of this dissertation is that the interconnection from matter to Spirit, from humans to the Divine, can be achieved by taking in through the bodily senses energy, light as information from the environment of matter, and processing this information whether the environment is the natural or the supra-natural environment of culture, and that this interconnection leads to transcendence of consciousness.

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[1] Gregory Riley, *The River of God: A New History of Christian Origins* (San Francisco: HarperSanFrancisco, 2001); Keith Ward, *Pascal's Fire: Scientific Faith and Religious Understanding* (Oxford: Oneworld Publications, 2006).

[2] David Griffin, *Religion and Scientific Naturalism: Overcoming the Conflicts,* SUNY Series in Constructive Postmodern Thought (Albany: State University of New York Press, 2000).

[3] C. F. D. Moule, *The Holy Spirit* (Grand Rapids: Eerdmans, 1978), 1.

The Interconnection of Spirit and Matter: The Historical Problem

In current biblical scholarship there is a tendency to label the interrelationship between Spirit and matter simply in "supernatural," interventionist terms saying nothing further, or more often to remain silent all together offering no explanation at all on how the realm of Spirit/Light connects with the realm of matter. From the perspective of Biblical Studies, Gregory Riley states in *The River of God* that the interaction between the spiritual, immaterial God of Light and the dark world of matter has always been a problem.[5] While Mind and Matter have experienced a sharp divide since Anaxagoras,[6] since Plato, the incorporeal, immaterial realm is fundamentally divided from the world of matter. With Basilides and the idea of Creation *ex nihilo,* the divide between God and the world was fully entrenched.[7] Early Christian interpreters often employed Greek concepts in their theological explanations.[8] An early example of the philosophical divide reflected in Christian sources comes from the fourth century in Augustine's *Contra Manichaes.* Augustine states that one of the many problems of the cosmology of the Manicheans is that the realm of Spirit and Light touches the world of matter and darkness, and therefore the world of Light must be material if it is to be in contact with the world of matter.[9] Augustine is basing his argument on Greek philosophical concepts that the immaterial realm is eternal and unchanging, and because it is defined as unchanging cannot by definition come into contact with matter and the world of change. The Manicheans on the other hand have defined the soul as particles of light based on their interpretation that the Divine realm is Light. From the field of Philosophy of Religion, in the sixteenth century, in *Critique of Pure Reason,* Immanuel Kant states that because God is Spirit and our knowledge comes only through sense perception we cannot experience God.[10] The dualism in his statement stems from the definition that Spirit is incorporeal and the senses pertain only to the corporeal, reflecting the Platonic divide. From the contemporary field

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[4] Lawrence Fagg, *Electromagnetism and the Sacred: At the Frontier of Spirit and Matter* (New York: Continuum, 1999).

[5] Riley, *River of God*, 45.

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[6] Patricia Curd, *Anaxagoras of Clazomenae: Fragments and Testimonia* (Toronto: Toronto University Press, 2007).

[7] H. A. Wolfson, "Negative Attributes in the Church Fathers and the Gnostic Basilides," *Harvard Theological Review* 50 (1957): 145-56.

[8] Chapter 2 below reviews the interconnection between Greek and early Christian concepts.

[9] Augustine *Contra Epistolam Manichaei Quam Vacant Fundamenti* 21.

[10] Grace Jantzen, *Power, Gender, and Christian Mysticism* (Cambridge: Cambridge University Press, 1995), 308.

of Science and Religion,[11] Arthur Peacocke in *God's Interaction with the World: Deterministic "Chaos" and Interconnected and Interdependent Complexity*, states there is an ontological gap between God and the world and the task is to find the gap between the nature of God's own being and that of the created world.[12] Discussions in the field tend towards locating a place to put "the causal joint" due to the long philosophical divide of the Immaterial Realm of Mind and the world of corporality. Philip Clayton states in his conclusion to *God and Contemporary Science,* that what needs to be rethought is the spirit/matter distinction.[13] Further, descriptions of the workings of Spirit by traditional and contemporary theologians tend to be in terms of either "energy" or "mind" reflecting the historical philosophical divide.[14] This dissertation seeks to address the problem by redefining the Spirit/matter distinction by bringing forward alternative historical religious traditions and a definition of matter from the perspective of contemporary science, which in turn will allow for a more integrative approach to the energy/mind apparent dichotomy, and will also allow for a connection to be made between matter and the Spiritual realm in terms of light.

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[11] Ted Peters defines the contemporary field of Science and Religion as arising in the last third of the twentieth century. Ted Peters, "Science and Religion," in the *Encyclopedia of Religion,* Vol. 12.,. ed. Lindsay Jones, et al. (Farmington Hills, MI: ThomsonGale, 2005), 8180-92.

[12] Author Peacocke, "God's Interaction with the World: Deterministic 'Chaos' and Interconnected and Interdependent Complexity," in *Chaos and Complexity: Scientific Perspectives on Divine Action,* ed. Robert John Russell, Nancey Murphy and Arthur Peacocke (Vatican City State: Vatican Press, 2000), 287.

[13] Philip Clayton, *God and Contemporary Science,* Edinburgh Studies in Constructive Theology (Grand Rapids: Eerdmans, 1997), 264.

[14] Chapters Four and Five below will specifically examine this topic.

Methodology

Chapter One introduces the historical problem of conceptualizing and describing the connection between Spirit and matter, and the approach to be taken in this dissertation to address the problem. Examples are offered from current biblical commentaries which tend towards silence on how this connection may occur, even though this is the topic of the passage that the commentary addresses. To begin to address the issue of the connection of spirit and matter, a definition is sought for what is meant by spirit from a biblical perspective. An overview is offered spanning from the earliest writings in the bible to the latest to chart the growth of the tradition of "spirit." These conceptions will be used as a working foundation throughout this dissertation to address the problem of the connection between Spirit and matter.

Chapter Two addresses the changing worldview in biblical times brought about by the Greek philosopher-physicists.[15] Early cosmological models tended to describe Nature as divine, generative, and reason-filled particularly among the Pre-Socratics. The concept of the *Logos* from Heraclitus and later the Stoics would specifically be employed to address the intelligent principle within nature, and the connection from the Eternal to the material realm. In the historical trajectory of thought from Plato to middle Platonism to Gnosticism, an increasing dualistic divide between the transcendent world of Spirit/Light and that of dark matter would develop, with the *Logos* often used as the ontological and epistemological connection between God and the world.

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[15] The early Greek "natural philosophers" were referred to by their first commentators as physicists. Aristotle, *Physics;* Theophrastus *Opinions of the Physicists*; G. S. Kirk and J. E. Raven. *The Presocratic Philosophers: A Critical History with a Selection of Texts* (Cambridge: Cambridge University Press, 1963)

Chapter Three continues to trace philosophical systems which present Nature and matter itself as divine or light filled. This can be found in the writings of the Manicheans, the Hermetic Corpus, and Mysticism. Meanwhile, with the rise of Christianity, the concept of the *Logos* would be applied to Jesus as the one who connects humanity to the Eternal realm. Following the gospel of John, Christian Apologists of the second century increasingly applied this Greek philosophical concept to Jesus. This line of thought would be further developed in Christian Trinitarian doctrine, with the Holy Spirit described as arising from the resurrected Jesus and regarded as the primary connection between "fallen" humanity and God. In medieval interpretations, from Aquinas to Calvinism in the Protestant Reformation, the concept of Christ's Holy Spirit as the bridge between "the supernatural realm" and the world of matter was firmly set. The rise of Newtonian science in the 16th century would establish mechanistic descriptions for matter, and increased dualistic conceptions between Spirit and matter. Spiritual interaction with what would be considered "inert" matter was increasingly described in supernatural terms.[16] As David Griffin relates in *Religion and Scientific Naturalism*, the Mechanistic view of matter set within a Supernatural Theistic model arose to prominence in a three-way battle of the cosmologies in seventeenth century Europe and was promoted by the Church, increasing its hegemony as providing the only avenue to the Divine. The two competing cosmological traditions, Aristotelian-Thomistic model and the Gnostic-Hermetic-Platonic Mystical tradition would lose out in this battle. Chapter three begins with this third tradition, Gnostic-Manichaeism, Hermeticism and Mysticism. This alternative tradition as will be shown, provides valuable insights into how to conceptualize a natural connection between Spirit and matter, and allows for the element of light and matter as vibrantly alive as a connective bridge. As will be shown, this view is also more compatible with findings from contemporary science in terms of the nature of matter itself.

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[16] Griffin, *Religion and Scientific Naturalism*, 124-33.

Chapter Four provides insights from contemporary science in regard to matter. Today, increasing advances in Quantum Electrodynamics, Complex Systems Theory and Neurobiology offer new perspectives on the nature of matter. From Quantum Electrodynamics matter is expressed as energetic, both in terms of particles and waves, and is the substratum which forms into the world of nature. Systems Theory and Complexity Theory describe how smaller elements form into the visible things of matter, and how there is continuous natural transcendence of former things into new creations.[17] A history of Neurological studies is provided from mechanistic understandings to conceptions which express the plasticity of neural networks, which literally grow in response to information received from the environment. It will be shown that light, as photons, is a primary connective element between the world of matter as foundationally electromagnetic in nature and what is identified by the field of Theology as spiritual enlightenment. Matter itself is shown to be light-filled, relational, and dynamically self-transcending bringing forth new creations which transcend former material configurations, particularly within the brain itself.

Chapter Five addresses contemporary works from the field of Science and Religion in terms of how Spirit and matter are thought to interconnect. Theological works from the following scholars will be reviewed: Alfred North Whitehead, Pierre Teilhard de Chardin, Arthur C. Peacocke, Willem Drees, Jurgen Moltmann, physicist Lawrence Fagg, Wolfhart Pannenberg, Nancey Murphy and Warren Brown, Lynne McTaggert, Bruce Lipton and Masaru Emoto. Insights from these works will be carried over and applied to the thesis of this dissertation that matter, defined in terms by contemporary science as essentially electromagnetic, inter-relational, and self-transcending allows for the connection of Spirit to matter in terms of light, both in its physical, electromagnetic sense and in the metaphorical sense as enlightenment.

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[17] Ervin Laszlo, *The Systems View of the World: A Holistic Vision for Our Time* (Cresskill, NJ: Hampton Press, 1996); Ilya Prigogine and Isabelle Stengers, *Order Out of Chaos: Man's New Dialogue with Nature* (New York: Bantam Books, 1984); Stuart Kauffman, *At Home in the Universe: The Search for the Laws* of *Self-Organization and Complexity* (New York: Oxford University Press, 1995); John Holland, *Hidden Order: How Adaptation Builds Complexity* (Reading, MA: Addison-Wesley, 1995).

Chapter Six offers Form-critical exegesis of a representative sample of biblical passages which present the interconnection between Spirit and matter, and offers an analysis of this connection based on findings from earlier chapters. The following passages will be examined and the findings from contemporary science applied: Genesis 1:1-2.4a, Genesis 37:1-9, 2 Kings 2: 1-18, 2 Kings 3:4-27, 1 Corinthians 3:1-9, James 5:12-20, and John 1:1-18. Within these passages the following categories are addressed: the Spirit interactive with Creation (Gen. 1:1-2:4a), the Spirit in connection with an individual through prophetic dreams (Gen. 37:1-9), the enhancement of the human spirit in connection with God's action upon the world (2 Kings 2:1-18), the Divine inter-connection of prophecy enhanced by music (2 Kings 3:4-27), the Divine-human connection affecting the stages of spiritual growth as expressed by Paul (1 Cor. 3:1-9), the Divine-human connection through prayer of the elders affecting healing (James 5:12-20), and finally the Divine interconnection with the world through Christ as *Logos* (John 1:1-18). In the exegesis of these passages an application of the findings from contemporary science in terms of matter as inter-relational and transcendent in nature and the emphasis of light as connective element between Spirit and matter will be applied.

The Interconnection between Spirit and Matter: The Problem of Modern Biblical Exegesis set in a Supernatural-Mechanistic Framework

Presented here is a brief review of the passages to be exegeted and the problem encountered. There is a tendency in biblical scholarship to simply label the connection between Spirit upon matter in supernatural terms, or more often than not, to remain uncharacteristically silent on the issue (considering the nature of commentaries to offer reflection on each verse) even though the text itself *emphasizes* this connection.

In the first passage to be addressed in Chapter Six, Genesis 1:1-2.4a, the Spirit of God interacts with creation. What is the interconnection between the Spirit/Logos/Light and dark/matter in Genesis 1:1-2.4a? There is virtual silence on the nature of the connection itself, with statements to the effect that we simply cannot know or cannot have access to the Spiritual realm (Westermann, von Rad, Coats, Henry, Montague, Moody, Moule, Schweizer, Speiser, Loiy).[18] Westermann allows that this is a scientific text, but states that the Priestly writer "tries to preserve the mystery" of God.[19] Gerhard von Rad likewise sees this as a scientific text, and states that according to this text we cannot seek *direct* relation to God in the realm of nature.[20] Yet, philologically, the term *ruach* in the Hebrew Bible means wind. *Ruach* as wind, to be rendered spirit by later interpreters, is at its most basic the invisible power and presence of God *in Nature* described as interacting with creation in Genesis 1:2. Philo regarded relation to God as through the constituents of nature itself, and specifically, following Greek philosophical thought, through the *logos*/reason witnessed in nature. Reflecting both Jewish and Hellenistic concepts, he would on the one hand increase the philosophical divide between God and the world through his adoption of creation *ex nihilo*, on the other hand Nature itself provided access to the Divine. He also drew a distinction between direct relation to God through Mind and indirect through the constituents of Nature, which will be discussed below. The Stoics, the Corpus Hermeticum, and some Mystical traditions presented in chapters Two and Three will offer avenues to close the divide and connect to the Divine through the constituents of Nature itself. Moltmann takes Genesis 1:2 seriously, that "the Spirit hovered over the waters." "This explanation was seldom heeded in theological interpretation," he states, "but it was intended to point out that the divine Spirit is the creative power and the presence of God *in* his creation."[21] Both the *Logos* as Rational Principle and the Spirit as creative power will be emphasized in an analysis of the text employing science, as well as the insights from the Stoics, Philo, Hermetic and Mystical traditions. What will be brought out is Spirit as invisible power of God present in creation and that Light as the first creation provide a means to describe the connection of Spirit and Matter through both the constituents of Nature and the Mind together.

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[18] Claus Westermann, *Genesis,* vol. 1 (Neukirchen-Vluyn: Neukirchener Verlag des Erziehungsvereins, 1974); Gerhard von Rad, *Genesis: A Commentary* (Grand Rapids: Eerdmans, 1972); George Coats, *Genesis: With an Introduction to Narrative Literature*, Forms of the Old Testament Literature, v. 1 (Grand Rapids: Eerdmans, 1983); E. A. Speiser, *Genesis: Introduction, Translation, and Notes* (Garden City, NY: Doubleday, 1964); A. M. Henry, *The Holy Spirit* (New York: Hawthorn Books, 1960); George Montague, *The Holy Spirit: Growth of a Biblical Tradition* (New York: Paulist Press, 1976); Dale Moody, *Spirit of the Living God,* rev. ed. (Nashville: Broadman Press, 1976); Moule, *The Holy Spirit*; Eduard Schweizer, *The Holy Spirit* (Philadelphia: Fortress Press, 1980); Dan Loiy, *The Search for Ultimate Reality: Intertextuality between the Genesis and Johannine Prologues,* Studies in Biblical Literature, v. 93 (New York: Peter Lang Publishing, 2005).

[19] Westermann, *Genesis,* 174.

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[20] Rad, 66.

[21] Jurgen Moltmann, *God in Creation: An Ecological Doctrine of Creation; The Gifford Lectures* 1984-1985 (Southampton: Camelot Press, 1985), 99.

Genesis 37:1-11 presents Divine-human communication through the medium of dreams. The bible provides many examples of Divine-human communication through dreams (Gen. 15:12-13; Gen. 20:7; Gen. 28:12; Gen. 37:5-11; Gen. 41:16; Num. 12:6-8; 1 Sam. 28:6; Job 4:12-17; Job 33:12-18; Matt. 1:20; 2:12-22). The focus text will be Genesis 37:1-11, Joseph's dream. Regarding God's action upon the world of matter, in the Joseph novella as a whole, Brueggemann states "the purposes of God are not wrought here by abrupt action or by intrusions, but by the ways of the world which seem to be natural and continuous."[22] Yet, he also states that the view of God is so high in the Joseph narrative that "human action is declared irrelevant."[23] According to Brueggemann "the dream is a gift from God" and is "God's hidden way" and "the narrator sets a dream to guide the whole story" yet, states "that it will do us little good to investigate the phenomena of dreams."[24] This seems illogical. The view taken here is that pre-cognitive dreams and human actions based on dreams are crucial to the Divine plan moving forward and form part of the overall interconnection "in natural terms" which Brueggemann spoke of. The Divine interconnection "in natural terms" will be analyzed through the insights of contemporary science. A survey of commentaries[25] reveals little interest in investigating the connection between the Divine and the world through the medium of dreams. Social-psychological analyses do offer some explanation of the phenomenon of dreams from a Jungian perspective and will be used as a starting point. *How* the divine-human connection occurs through dreams predictive of the/a future will be pursued in terms of insights from ancient astronomers and philosophers as well as findings from contemporary science, in particular that the world of matter is inter-relational, information-rich and transcendent.

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[22] Walter Brueggemann, *Genesis* (Atlanta: John Knox Press, 1982), 289.

[23] Ibid., 289.

[24] Ibid., 301.

[25] Brueggemann, *Genesis*; Westermann, *Genesis;* Rad, *Genesis*; Coats, *Genesis.*

2 Kings 2:1-18 presents a passage on the enhancement of the Spirit expressed in terms of "the double share of the spirit" for Elisha and also concerns the ascension of Elijah. 2 Kings 2:9-11 states, that if Elisha sees Elijah taken away, he will have a double share of spirit. For the ascension, commentators will point out the mobility of the prophet as tradition criticism.[26] On the nature of what is actually happening, there is, understandably, virtual silence from a Newtonian framework. Regarding the mobility of Elijah, Montague states, "the messengers of the Lord are endowed with a spiritual subtlety appropriate to their vocation."[27] Shoemaker, Schweizer, Moule, Leithart, Long, Cogan and Tadmor are silent on the aspect of how this ascension might be possible.[28] Regarding Elisha's receiving of the double share of the spirit, Long indicates that the other prophets did not see this event,[29] but neither he nor the other commentators explicitly make the connection that what one (Elisha) sees and experiences alters the spirit within. The text will be investigated from the perspective of Neurological studies

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[26] Montague, 25.

[27] Ibid.

[28] W.R. Shoemaker, "The Use of Ruach in the Old Testament and of Pneuma in the New Testament," *Journal of Biblical Literature* 23 (1904): 13-67; Schweizer, *Holy Spirit*; Moule, *Holy Spirit;* Burke Long, *2 Kings,* The Forms of the Old Testament Literature, v. 10 (Grand Rapids: Eerdmans, 1991); Mordechai Cogan and Hayim Tadmor, *II Kings: A New Translation with Introduction and Commentary,* Anchor Bible, v.11 (Garden City, NY: Doubleday, 1988); Peter Leithart, *1 & 2 Kings* (Grand Rapids: Brazos Press, 2006).

[29] Long, 24.

and specifically how the transformation of neural pathways is dependent upon one's interaction with his or her environment, and how the increase in neural pathways raises consciousness. The association of mind/consciousness in association with the definition of Spirit will be discussed throughout this dissertation.

The connection between divinely inspired prophecy and music occurs in 2 Kings 3:4-27. Biblical texts which incorporate music in association with prophecy include 1 Samuel 10:5 and 2 Kings 3:4-27. The focus text will be 2 Kings 3:4-27. In v. 15 Elisha abruptly asks for a musician and then the Dtrh takes the reader aside to state that "when a musician played, the hand of YHWH used to come upon him." Commentators have little to say regarding how the Spirit to human connection occurs, or even how music might enhance prophetic ability.[30] Long describes the phenomenon as having "its origin in the mysterious rush of supernatural power."[31] Cogan and Tadmor describe the event as "the recurring ecstasis which took hold of the prophet under the influence of music."[32] They cite the connection between music, band of prophets, and Saul being "similarly possessed" in 1 Samuel 10:5, and then point the reader in the direction of Wilson's *Prophecy and Society*.[33] Wilson states the distinction between trance and possession, with possession being defined as a cultural theory, rather than as a psycho-physiological state for trance. For Wilson, possession is a cultural theory that explains how contact takes place between the supernatural and natural worlds.[34] He states, possession means that the body has been entered by a spirit or deity.[35] When the individual speaks, it is the spirit speaking through the individual's body.[36] The individual's identity may be temporarily lost as the spirit replaces the individual's soul.[37] Cogan and Tadmor have identified the prophetic event for Elisha as "possession" as Wilson describes it, though this cultural theory of deity entering a body hardly seems to be the case here in 2 Kings 3. The expression the writer of 2 Kings 3 used was more subtle and poetic, "the hand of God" came upon Elisha, there is no possession, or entering described. While Wilson himself does not comment on this text specifically, his definition of trance as a psycho-physiological state, rather than possession as a cultural theory may be more appropriate, and will be investigated. How music affects the brain, how it aids in increasing transcendence of the material world, will be discussed in an effort to add to the overall discussion of the interconnection of Spirit and matter.

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[30] Gwilym Jones, *1 and 2 Kings,* vol. 2 (Grand Rapids: Eerdmans, 1984); Cogan and Tadmor, *II Kings*; Leithart, *1 & 2 Kings.*

[31] Long, 42.

[32] Cogan and Tadmor, 44.

[33] Ibid.

In 1 Corinthians 3:1-9 Paul describes stages of spiritual development and its interconnection to the Divine-human relationship. The text discusses the efforts of Paul and Apollos in terms of the spiritual growth of the Corinthians, while Paul makes the theological statement that the growth is given by God. The interaction between Spirit and matter presented in the passage is that spiritual growth comes from God, yet, *the majority of this passage* describes the human effort invested towards this growth, suggesting this is worth investigating further. In commentaries, the activity of God is emphasized though certainly not described, while human efforts and effects are de-emphasized in the transformation of the person to spiritually maturity. Conzelmann, Montague and Moody do not even mention the efforts of Paul, much less Apollos in terms of the transformation of the individual from a fleshly or psychically oriented person to a spiritual individual.[38] Orr and Walther indicate the efforts of Paul in bringing faith to the Corinthians, but this is quickly set aside to theologically emphasize the activity of God.[39] The intent here is not to de-emphasize God, but to provide as full an account of natural explanations as possible. We do not need to de-emphasize human effort in order to be theologically oriented, but on the contrary should seek to understand ourselves better as God's creation in relationship to God. Findings from contemporary science in terms of matter as inter-relational, capable of transcendence, and electromagnetic in essence will be applied, and in particular findings from Neurobiology will be applied which show that as new information is learned neural pathways in the brain increase altering the microstructure of the brain itself, changing the individual.

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[34] Robert Wilson, *Prophecy and Society in Ancient Israel* (Philadelphia: Fortress Press, 1984), 34.

[35] Ibid.

[36] Ibid., 35.

[37] Ibid.

James 5:13-18 offers an example of the connection between spirit and matter in terms of prayer and its effect on matter. Spiritual healing is well attested in both the Hebrew Bible and the New Testament, spanning from Moses to Elisha to Jesus and his followers, all presented as agents of healing in connection with Divine power. James 5:14 recommends calling for the elders to pray over one who is sick. There is a tendency towards silence in commentaries on the topic of the efficacy of prayer on physical healing, or to interpret the healing in terms of emotional healing over physical healing, or in terms of integrating the person into the community (Brosend, Hartin, Moo, Tasker).[40] Specifically, Moo states that the relationship between faith and healing is "not causality but the will of God."[41] This interpretation reflects a Newtonian mechanistic framework for which matter is defined as inert and cannot be acted upon by the mind. There is a tendency to emphasize the theological statement in 5:15 that "the Lord will raise you up" and to de-emphasize the connection of Spirit on matter in terms of *how* physical healing is facilitated through the elders. Sophia Laws states that "*James* (italics mine) certainly believes in the efficacy of prayer" implying "but we do not."[42] While Tamez does not have much to say on the topic, she does state outright, going further than the others that "prayer strengthens our bodies."[43] The discussion which follows will be investigating *how* prayer might strengthen our bodies. The view taken here will be that the elders are an important part of the process of affecting healing. While indeed there are many theological works on healing, the goal here is to describe the view presented in James, in dialogue with the other biblical units presented in this dissertation, in terms of human involvement rather than mere supernatural explanations. The text states that "God will raise up the sick" person, yet again, as in 1 Corinthians 3:9, human effort is cited in the text to facilitate a transformation, this time in terms of sickness to health, while de-emphasized in commentaries in regard to actual physical healing. The human effort of the elders will be analyzed and investigated in terms of contemporary science, in particular employing findings from Neurobiology and how matter experiences adaptation in contact with other energy, information, and matter.

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[38] Conzelmann, 74; Montague, 137; Moody, 91.

[39] William Orr and James Walther, *1 Corinthians* (Garden City, NY: Doubleday, 1976), 170; Moody, Conzelmann, and Montague do not even mention the efforts of Paul in their discussions of this passage. Moody, 91-92; Conzelmann, 74-75; Montague, 137.

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[40] William Brosend, *James and Jude* (Cambridge: Cambridge University Press, 2004), 160-61; Patrick Hartin, *James,* Sacra Pagina Series, v. 14 (Collegeville, MN: Liturgical Press, 2003), 275; Douglas Moo, *The Letter of James* (Grand Rapids: Eerdmans, 2000), 245; R.V. G. Tasker, *The General Epistle of James: An Introduction and Commentary* (Grand Rapids: Eerdmans, 1957), 131. Tasker reflects the traditional view that the ability to physically heal through prayer was an ability for the Apostolic Age.

[41] Moo, 245.

[42] Sophie Laws, *A Commentary on The Epistle of James* (San Francisco: Harper & Row, 1980), 234.

[43] Elsa Tamez, *The Scandalous Message of James: Faith without Works is Dead* (New York: Crossroad, 1990), 71.

In the previous texts, human effort was described as effecting spiritual transformation of the individual, from fleshly and psychic to spiritual, and from sickness to health. In John 1:1-18, Jesus is cited as the source and cause of transformation. While Jesus is presented as more than human in the Prologue, in fact, as a god, in contrast to the human efforts in the two previous passages, how he affects transformation will be investigated. Commentaries tend to describe transformation of the individual, the interconnection of the Spirit upon matter, in terms of "an act of God." Commenting on vv. 12-13, Haenchen states that "how people become children of God is through an act of God,[44] or Sanders, "a direct intervention of God,"[45] Lightfoot, "a gift of God,"[46] Bruce, "faith in the name of Jesus and in the testimony about him,"[47] and Witherington adds, "and his resurrected status" (as God).[48] The transformation of individuals into "children of God" will be explicated in terms of Jesus as first human, then as enlightened, figuratively and literally, Light-bearer. Recent findings from contemporary science which describe matter as essentially inter-relational, transcendent, and electromagnetic will be applied.

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[44] Ernest Haenchen, *John 1: A Commentary on the Gospel of John, Chapters 1-6,* trans. Robert Funk (Philadelphia: Fortress Press, 1984), 118.

[45] J. N. Sanders, *A Commentary on the Gospel According to John* (New York: Harper & Row, 1968), 78.

[46] R. H. Lightfoot, *St. John's Gospel: A Commentary* (Oxford: Clarendon Press, 1956), 83.

[47] F. F. Bruce, *The Gospel of John: Introduction, Exposition, and Notes* (Grand Rapids: Eerdmans, 1983), 39.

[48] Ben Witherington, *John's Wisdom: A Commentary on the Fourth Gospel* (Louisville: Westminster John Knox Press, 1995), 57; George MacRae, *Invitation to John: A Commentary on the Gospel of John with Complete Text from the Jerusalem Bible,* Doubleday New Testament Commentary Series (Garden City, NY: Image Books, 1978), 220.

In the passages introduced above, while the biblical text will emphasize the connection between the Divine and natural world, there is virtual silence from commentators addressing this connection. The text will usually even provide a clue as to how the connection is possible. Not only is the clue ignored, but often it is discounted to emphasize God's "supernatural" interaction. This tendency reflects a Mechanistic Supernatural worldview. Contemporary Science offers insight into explaining **how the connection** may be better understood in terms of matter as electromagnetic in character, information-rich, inter-relational, and capable of transcending previous forms.

The Growth of the Biblical Tradition of Spirit and the Relationship between Spirit and Matter

Presented here is an overview of the growth of the tradition of the term spirit from the earliest writings in the bible to the latest. A review of this growth will be presented as it pertains to the relationship of Spirit to matter. While a definition of spirit is sought, there is no one definition of spirit offered in the bible, instead what is charted below is a growth of the tradition, the evolving concept of spirit. This evolving concept/s is what will serve as a working, biblical, definition of spirit in the discussion of the connection of spirit and matter.

The Spirit and Connection to Matter in the Hebrew Bible and Intertestamental Period

Spirit as wind, breath, source of life, enhanced physical and prophetic power

In the earliest biblical writings the concept of *ruach* is of wind and breath.[49] Scholars indicate the following passages: *Ruach* as wind (Exod. 10:19; 14.21; Num. 11),[50] *ruach or neshamah* as breath (Gen. 2:7; 6:2-3; Job 32:8,14-5; Ps. 103:27-30; Eccl. 12:7; Ezek. 37:5-10). As A. M. Henry explains the concept of the *ruach* of God as wind becomes the breath of humanity.[51] What the two have in common according to Shoemaker is "invisible power."[52] How the Spirit of God and matter connect in general terms is that the wind is a dynamic power which brings change to the world of nature. The Spirit of God as breath is at its most basic the power of life within the individual.[53] For G.T. Montague, the primeval tales in Genesis express that the connection for power of life from the Divine Spirit is weakened through unethical behavior.[54] The view that the divine matter can be affected by unethical behavior is also found in the earliest tradition of the Greeks and will be discussed in Chapter Two. In a rare scientific explanation offered for the spirit as wind, Henry states

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[49] Shoemaker, 13; Henry, *Holy Spirit*, 17; Moody, 13; Moule, 1; Michael Welker, *God the Spirit,* trans. John Hoffmeyer (Minneapolis: Fortress Press, 1994), 50.

[50] Shoemaker, 14; Henry, 7.

[51] Henry, 17.

[52] Shoemaker, 14

[53] For C. F. D. Moule, the Spirit of God is the spirit within the human being based on Gen 2.7; Num 16.22; 27.15, Ps 51; Is 63.10. Moule, 8, 27. This is also the view of Brown, Driver, and Briggs in the Hebrew and English Lexicon, s.v. "*ruach.*" For Montague, "the Divine Spirit is not in the human being, but divine breath, *neshamah*, not *ruach*, but virtually equivalent." Montague, 6.

[54] Montague, 10.

> "wind is a natural phenomenon explained by the difference in pressure between two places, and this difference in pressure is itself explained by that of temperature..."[55]

What he is describing is a gradient change, brought about by differences in temperature, though having offered this explanation he dismisses it for being of no consequence.[56] In Nature, a fundamental way for changes to occur is through a gradient change, whereas from a theological perspective the Spirit is described as bringing change to Nature. This interconnection of concepts will be pursued below.

Other early biblical concepts describe the Spirit of God in connection with the spirit of human beings imparting physical strength and prophetic utterances. Passages cited for the first are: Judges 3:10; 4:3; 6:33-35; 14:5-6; 15:14; 16:28; 1 Samuel 11:5; 16:13; 1 Kings 21:3; Gen. 41:8.[57] Such passages generally take the form: the Spirit of the Lord came upon X, with variation. Scholars do offer a natural explanation for this phenomenon: there is a natural heightening of emotions in the face of injustice, described by biblical writers as the Spirit of the Lord coming upon an individual.[58] Montague does not discuss this in terms of emotion, but does note that prayer precedes the advent of the Spirit coming upon an individual as a precondition for such a connection.[59]

For the phenomenon of ecstatic prophecy in the early Hebrew literature the following passages are discussed: Numbers 11:17f; 1 Samuel 9-10; 19:20-23. In this relation between the Spirit of God and the human being as expressed in the biblical texts as the Spirit of the Lord in association with prophetic ability, Montague describes this in terms of "gift" of "enlightenment."[60] For Shoemaker, the prophet is "energized" by the Spirit of God, "stirred up to a state of religious frenzy"[61] Both Henry and Montague discuss the phenomenon of the spreading of ecstatic prophesy to others nearby as "contagion" of the ecstatic prophets, and that this is at times in association with music.[62] Preconditions such as the social environment and its affect on emotions, as well as prayer and music as a precondition will be brought out further in Chapter Six in terms of the connection between spirit and matter.

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[55] Henry, 7.

[56] Ibid.

[57] Shoemaker, 15; Henry, 24.

[58] Ibid.

[59] Montague, 18.

The Spirit of God in connection with the human spirit allows some to perform miracles. In the early biblical literature, miracles are cited in connection to Moses in the Exodus accounts, and Elijah and Elisha which include turning bitter water to a viable state, parting the waters, multiplication of oil and loaves, and healings (Exod 7-10; 14:26-29; 15:22-25; 17:1-7; 1 Kings 17:8-16; 20-22; 2 Kings 2:11,14, 21; 4:1-7, 34-35, 40-41; 5:14; 6:6-7). The Spirit of God in relation with the prophets affects "the power to work miracles."[63] Blenkinsopp categorizes some miracles as clairvoyance and extrasensory perception (2 Kings 6:8-10,12,17).[64] The issue of the "double share of the spirit" received from Elijah to Elisha, serves as a parallel to the transfer of divine power from Moses to the Elders (Num. 11), and relates to the father/son inheritance law of

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[60] Ibid., 19.

[61] Shoemaker, 15.

[62] Henry, 7-8; Montague, 20.

[63] Shoemaker,

[64] Joseph Blenkinsopp, *A History of Prophecy in Israel: From the Settlement in the Land to the Hellenistic Period* (Philadelphia: Westminister Press, 1983), 75-76.

Deuteronomy 21:17.[65] Other than that, there is virtual silence on how this transfer may occur. In texts which relate the "mobility of the prophet," Montague cites the examples of Elijah, Elisha, Ezekiel, and the New Testament account of Philip in Acts. His assessment: "the prophet is endowed with spiritual subtlety appropriate to the vocation."[66]

Biblical texts describing pollution or darkening of the human spirit

A problem of "false prophesy" is identified by biblical writers "in the Deuteronomic period to the writing prophets."[67] This is noted here because it pertains to the relationship between the Spirit of God to the prophet. In the following passages a mistrust of "spirit" in association with prophecy is voiced: 2 Kings 22:24; Deuteronomy 18:9-20; 30:11-14. Montague maintains that there is a movement from Deuteronomy to the classic prophets of "abandonment of references to 'the spirit of the Lord' based on mistrust of prophetic trance."[68] "The ***word*** of the Lord" becomes prominent in expressions by the prophets.[69] The "word" has the advantage of being clear, more easily tested against tradition, and is viewed as a more precise way to discern the spirit of the Lord.[70] So the word of the Lord becomes a favored mode of connection between the Divine and world of matter. This emphasis can be seen in Amos, Hosea, and 1st Isaiah. The "word of the Lord" is explicitly cited in Amos 7.14 and Hosea 1.1, while spirit or allusion to prophetic trance is used in a pejorative sense in Hosea 4:12,19; 5:4; 8:7; 12:2; Amos 7:14; Isaiah 29:10. Hosea calls Israel to purity of spirit in order to know, to perceive, when the Lord is acting and speaking (6:6; 10:2; 12:6). Isaiah predicts a spirit of judgment is coming to purify Jerusalem (Isa. 4:4) and associates the spirit with justice, as does Micah.[71] A purified and just spirit is stressed as an important element in relating to the Spirit of the Lord and in perceiving the Spirit. Hosea links one's spiritual state and the ability to perceive. For C. F. D. Moule perception, that is, mind, is a fundamental aspect of the renewed human spirit.[72]

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[65] Montague, 25, 28; Blenkinsopp, 75-76.

[66] Montague, 28.

[67] Shoemaker, 20; Montague, 30; Wilson, 190-91.

[68] Montague, 30.

[69] Ibid.

[70] Ibid.

It is with the prophet Jeremiah just before the Babylonian Exile that "spirit" is expressed in its most pejorative sense. Social abuses abound under the leadership of Jehoiakim as he remodels his own house using forced labor in the wake of national destruction.[73] It is in this social climate that the prophets predict that all will be well and Jeremiah offers much condemnation for these "men of the spirit" and their "false visions" (Jer. 2:8; 5:13,31; 6:13; 14:11-16; 23:9-40; 28:1-17). "The prophets have become wind, *ruach,* the **word** is not in them" (Jer 5:13). False prophecy is linked with the ills of society blocking true communication with the Divine. While the word is the preferred link between Divine and human, Jeremiah himself is reported in the text to receive visions (Jer. 1:11-12). Jeremiah's prophecy of 31:33 is the promise of the writing of the law on the hearts of the people, an internalization of the Spirit of God in terms of righteousness, ("I will put my teaching inside of them") which will create "harmony" between God and individual.[74] Expressed in the writings from the eighth to the sixth centuries BCE, the concept is expressed that the spirit within, which was earlier associated with breath of life and now with perception, can become tainted, affecting the ability to prophesy, and can be in need of purification.

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[71] Ibid., 35-39.

[72] Moule, 30-31, 63.

[73] Montague, 42.

The Purification and Renewal of the Spirit,

The concept of the pouring out of the Spirit will become a pronounced method of interaction between the Divine and human. This concept arises first in 1st Isaiah, then in the exilic and post-exilic writings, and is specifically found in Ezekiel, 2nd Isaiah, 3rd Isaiah, 2nd Zechariah, Joel, Daniel, 2 Maccabees, and finally in Acts in the NT. Its first use is in a pejorative sense: "his *ruach,* like a flood in a ravine that reaches suddenly to the neck, will winnow the nations with a destructive winnowing" (Isa. 30:28). The metaphor describes the Spirit in terms of water as a cleansing agent.[75] Within the prophetic writings there is a pronounced development towards an association of spirit with ethical purity in human behavior, and this begins to be tied in with the concept of the pouring out of the Spirit.

Renewal brought by the Spirit is also first expressed by Isaiah. Its first use is in terms of renewal of the land.[76] After the purifying pouring out of the Spirit, there is a renewal of the land, as in the agricultural sense when after the rains there is new growth.

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[74] Moshe Greenberg, *Ezekiel 21-37,* Anchor Bible, v.22A (New York: Doubleday, 1997), 737.

[75] Montague, 40.

[76] Ibid.

This renewal is also described as a pouring out of the Spirit in terms of justice, righteousness, and peace (Isa. 32:15f). Renewal of land is associated with a future leader, who rules justly (Isa. 11:1-9). The time of renewal will be mediated by this future leader who will have a spirit of wisdom, understanding, counsel, strength, knowledge, and fear of the Lord (Isa. 11:2).[77] These qualities are in direct contrast to the present religious and political leadership of Isaiah's time, who lie, cheat, lack vision, and generally abuse their positions of privilege (Isa. 1:12f; 5:7f; 10:1f; 28:7f).

During the Exile and early post-exilic era, one finds, according to Montague, "the richest pneumatology in the Hebrew Bible."[78] Spirit is associated with covenant such that the people have become holy through following the guidance of the covenant.[79] The concept of the pouring out of the Spirit is found strongly in this era in the writings from Ezekiel, 2nd Isaiah and 3rd Isaiah. For Welker, it is the experience of the Exile itself which is the factor for this rich peneumatology. Welker employs Complexity Theory in his pneumatology, which strongly factors in the energy/information/matter from the environment which reshapes new systems, including individuals and nations.[80] Whereas the other biblical scholars credit the covenant, Welker cites "experience" as the crucial factor for a new pneumatology.[81] A redemptive change has occurred brought about through the suffering of the Exile.

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[77] Ibid., 41.

[78] Ibid., 43.

[79] Ibid.

[80] Welker, *God the Spirit,* 66.

[81] Ibid.

In the writings of Ezekiel there is "a union so intimate and deep with the Spirit" that Ezekiel does not have to qualify his receiving of inspiration or Divine Action by stating that it is from the Spirit of the Lord; for Ezekiel such phenomena is simply from "the spirit."[82] This intimacy of the Spirit is one of companionship for Ezekiel and the people. The Spirit encourages him, literally lifts him up, is near him, and in him (Ezek. 2:2; 3:12,24; 11:1,5,24). For the people, the Spirit is there with them in Babylon and did not abandon them. As Montague states, Ezekiel's vision of the living creatures is full of movement and power, emphasizing the mobility and energy of the Spirit.[83] Ezekiel connects deeply with the Spirit and is moved, literally, under the "force" of the Spirit.[84] As stated earlier, explanations of this deep connection of Spirit to the human being which causes mobility of the prophet are not even attempted by scholars, though words such as power and force are applied.

Ezekiel expresses that there will be renewal for the nation and the individual, with this renewal being expressed in terms of "spirit" (Ezek. 36; 37). The spirit is regarded by interpreters as the "power" and "agent of renewal."[85] The order of "salvation" is described as the following:[86] The Lord will bring the exiles back (36:24). This will be followed by purification, cleansing associated with water (36:25). After the purification, "I will give you a new heart and a new spirit" (Ezek. 36:25). "I will put my spirit inside you" (36:27). Moody notes that Ezekiel speaks of the new heart and new spirit as that which is "given," but he states that there is also the idea in Ezekiel that this is "through repentance."[87] The need for purification prior to a new spirit being received as "gift" is strongly brought out by scholars, the internal process of change, hinted at by Moody, will be a focus of exegesis below in Chapter Six.

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[82] Montague, 45.

[83] Ibid.

[84] ibid.

[85] Montague, 47; Shoemaker, 25-6.

[86] Montague, 47; Greenberg, 738-9.

With 2nd Isaiah there is a balance between spirit and word as "agents of the power of the Lord."[88] Consolation for the exiles is expressed in terms of the spirit (Isa. 44:2,3). There will be a pouring out of the Spirit as blessings on Israel's descendents. The pouring out of the Spirit in 1st Isaiah was in terms of justice and righteousness, now in 2nd Isaiah in terms of "blessings." Metaphorically in the text this is associated with water reviving the land bringing fruitfulness (Isa. 44:3). The Spirit brings renewal, but first it also is cited as the cause of destruction to Israel and the nations (40:6,33). As winds can be helpful bringing pollen, they can also be destructive. The Spirit, in its most primitive understanding as wind, is a power in connection with nature to bring destruction and blessings, and this understanding is metaphorically applied to the nation/s.

The Spirit in 2nd Isaiah is also associated with creation in Isaiah 40. As Montague observes, in the background of this exilic passage is the annual renewal celebration for the Babylonian god Marduk.[89] 2nd Isaiah presents instead *the Lord's* power of renewal of creation, and Montague cites this as a preliminary step to the Spirit active in the creation of the cosmos in the creation account in Genesis 1.[90] In this renewal process brought by the Spirit of God in Isaiah 40:12-13, the "wisdom" of God is cited. The Spirit is here associated with wisdom as in 1st Isaiah in the description of the just ruler, and in 2nd Isaiah this is further developed (42:1-7).[91] In Jeremiah the Spirit was associated with "teaching." The intellectual concept of Spirit is evolving in the exilic writings, and speaks to the connection between creation, creatures, and the Divine in terms of information from the social environment. The idea of wisdom as an approach to the Divine will be greatly developed, particularly in rabbinical literature. Furthering the concept of Spirit and its relation to the people is the idea of consolation to the exiles, conveyed in 3rd Isaiah, where a time scale is offered for release.[92] Like Saul and David, the prophet of 3rd Isaiah receives the Spirit through an anointing (Isa. 61:1). "The spirit of the Lord is upon me, because the Lord has anointed me" (Isa. 61:1). This announcement of release to the exiles, Montague associates with the sabbatical year, and he points out that Luke will use Isaiah 61 as "the inaugural speech by Jesus, opening the time of ministry as a new era of freedom and salvation."[93] The Spirit is described as "guiding force" here in 3rd Isaiah in connection with *time* and events of freedom, which in turn is connected to human action.[94] According to 3rd Isaiah, it was the *Holy* Spirit of God which guided Israel all along (63:9f). Montague states that with 3rd Isaiah there is "the new concept of the Lord's Holy Spirit as universal director of sacred history."[95]

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[87] Moody, 21.

[88] Montague, 50.

[89] Ibid.

[90] Ibid., 51.

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[91] Ibid.

[92] Ibid., 53.

[93] Ibid., 54.

[94] Shoemaker 27; Montague, 54.

[95] Montague, 54.

It is in this period of the post-exile that "holiness" of the Spirit is emphasized. The Spirit of God is viewed as a purifying, correcting and instructing agent (Isa. 44:3; 59:21; 63:10,11; Ezek. 36:26-30; 39:20).[96] God's "holy" spirit is stated explicitly by 3rd Isaiah (Isa. 63:10,11). The Spirit is described in this time period as a holy and guiding force. The force guides, but turns on Israel when they grieve God's "holy spirit."[97] There is danger of destruction if one comes too close or acts unethically (Exoc. 19:21-24; 33:20). In the Exodus texts, the power of the Lord is described in terms of fire. To grieve God's holy Spirit is not only to make it withdraw as in Isaiah 59 in which iniquities are viewed as barriers between Divine and human, but also "to expose oneself to experiencing the events of life as counter forces."[98] As in *ruach* as wind, there is a destructive as well as creative aspect of the Spirit. The relation between the Holy Spirit of God and humans can be dangerous to those who are not holy, while purification, later to be identified with "sanctification" (from the Latin, holy) allows for closer contact.

We have come full circle from the early exilic prophets who polemicized against "spirit," instead validating their message on "word" due to its clarity. The problem preceding this had been that of false prophesy, and it was noted by scholars that this was in time of unjust leadership and general unethical behavior. In the exilic and post-exilic prophetic writings, the trend has been to view the Spirit as intimate presence of God, agent of purification and renewal, both internal and external. The presence of spiritual renewal was linked to the internalization of education of the covenant, as bringing and inspiring outward forms of justice, hope, and salvation, spoken in terms of the resurrection of the people and the rebuilding of the nation under just leadership. The intimate connection of the Spirit is expressed as dependent upon purification and as bringing purification, as bringing justice and dependent upon justice, as associated with wisdom, and dependent upon education of law, a concept that will be brought out more fully in the wisdom literature. This symbiotic relation between the Spirit of God and spirit of humans in the biblical texts is expressed in terms of process (the need for purification and internal wisdom) and gift, as something given, and will be explored more deeply throughout the remainder of this dissertation.

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[96] Shoemaker, 28; Montague, 54.

[97] Montague, 58.

[98] Ibid.

The Spirit as agent of creativity is brought out strongly in the post-exilic writings, particularly in Genesis and the Psalms (Gen. 1; Ps. 33:6).[99] In Genesis 1, the *ruach elohim*, feminine in the Hebrew, sweeps (or hovers) over creation.[100] With word and spirit, the coupling of concepts carried over from the previous era, order is brought out of the formless void, the *tohu wabohu.*[101] Light is brought into the darkness of the deep. With a gentle spirit, the *ruach* hovering over Creation, God speaks creation into existence. Living structures of order out of disorder are formed through a process of "separation and ordering."[102] The creative spirit is also expressed in the post-exilic period for the human spirit in terms of the artist (Exod. 31:3; 35:31) "affirming a relationship between natural artistic talent and the spirit."[103] This is described as a spirit of wisdom, *hokmah*, insight, *tebunah,* artistic sense, *da'ath,* and skill, *mela'kah.* In the post-exilic writings of Haggai and 1st Zechariah the spirit is active agent in the re-building of the temple and re-birth of the nation (Hag. 2:5; Zech. 6:8). In post-exilic writings, the Spirit of God is associated with creativity, and is cited in specific examples of the human spirit.

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[99] Montague, 61-2, 75.

[100] The different interpretations of the movement of the Spirit over creation will be addressed in the exegesis of Genesis 1 in chapter six below.

[101] Montague, 65.

[102] Ibid., 68.

The Spirit of/as Wisdom in the Post-exilic and Intertestamental Era

In post-exilic writings, the Spirit is presented as all pervasive and ever present throughout creation; present within the human being and upon death the spirit returns to God (Ps. 31:6; 139:7; 104:27-30; 143:7).[104] Purification of the spirit through the Covenant is advanced in the post-exilic period through the three traditions of law, wisdom, and apocalyptic.[105] The law becomes a powerful centralizing force with the publication of the Pentateuch by priests of the restoration in the fourth century BCE.[106] The *message* of the Divine is now understood to be contained in the codified law.[107] The approach of the rabbis was that if one was seeking guidance, look to the law, while previously guidance was the purview of the spirit.[108] The law would also come to function as a means to purify the spirit. Wisdom literature offered the practical rules for successful living,[109] but also it is within wisdom literature that spirit is defined further.[110] The apocalyptic literature of 2nd Zechariah, Joel, Daniel, and Maccabees associates the pouring out of the Spirit with "one final act from the Lord to manifest justice" (Joel 3:1-5; 2nd Zech. 12:1-10). [111] In 2nd Zechariah, this pouring out of the Spirit will bring a changed attitude and "a new perception."[112] Again, new perception is associated with the Spirit, as in Hosea, and will see a further development in later writings.

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[103] Ibid., 62.

[104] Ibid., 75.

[105] Ibid., 82.

[106] Ibid.

[107] Ibid.

[108] Ibid., 83.

While biblical wisdom literature carries over concepts from previous writings, it is the intertestamental wisdom literature and rabbinical literature which provides valuable development, forming a conceptual bridge between the Hebrew bible and the New Testament in terms of the concept of spirit and how Spirit relates to the world of matter. In Job it is stated "it is a spirit in man, the breath of the Almighty, that gives one understanding" (Job 32:8) For Qoheleth, the spirit is also the intelligent life force which guides the embryo in formation (Eccl. 11:5). In the Wisdom of Solomon, it is said that "God infused a vital spirit [into the human being]" (Wisd. of Sol. 5:11). For the writer of Sirach and the Wisdom of Solomon, the Spirit of the Lord does not just give life to humans, it "fills the world" (Sir. 1:7; Wisd. of Sol. 12:1). The spirit of wisdom is described as intelligent, holy, unique, manifold, subtle, agile, clear, unstained, certain, not baneful, loving the good, beneficent, kindly, firm, secure, tranquil, all powerful, all-seeing, and pervading all spirits (Wisd. of Sol. 7:22b-23a). With these writings, the concept of the spirit is developed further; the spirit "shares in the transcendence of God," and again includes the idea of the pervasiveness in all creation, including the human being.[113] The relationship between the Spirit and matter is expressed as pervasive and intimately connected with the human spirit sharing in the transcendence of God.

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[109] Ibid.

[110] Ibid.

[111] Ibid., 84.

[112] Ibid., 87.

To strengthen this spirit within, 2 Maccabees and Sirach advocate reading the Torah and prayer, then one will be "filled with a spirit of understanding" (2 Macc. 7:23; Sir. 39:1-5). This is developed further in the chain saying of Rabbi Pinchas ben Yair:

> Zeal (in obedience to the law) leads to physical purity, this leads to cultic purity this to abstemiousness, this to holiness, this to humility, this to abhorrence of sin, this to piety, this to the holy spirit, this to resurrection..." (Sota 9, 15; cf Str-Bill, I, 194)

Here, the rabbi is describing a process to purify and strengthen the human spirit: the divine spirit is within, can become contaminated and in need of purification, and it is through education and action which strengthens and purifies this spirit. Having the *holy* spirit within is described as a natural process.

The expression "holy spirit" becomes common place among the rabbis.[114] Using soul and spirit interchangeably, "the soul is from heaven, the body from earth" (Sifre Deut. 306 on 32:2).[115] "Since this spirit comes from God, it is sometimes called 'the spirit of God' or 'the holy spirit of God' even when referring to a constituent part of the human being" (Targum J.I. Gen 6:3). There is belief here in the pre-existence of the soul, which Montague notes.[116] The spirit can also function independently from the body. "After death, the spirit goes to places appointed for it," such as "the seventh heaven, or the throne of God," which Montague asserts is "clearly an advance over the spirit returning to God at death" in that the rabbis are more specific.[117] Souls of the unjust were thought to go to *Sheol* or to stay near earth.[118] The belief in a good afterlife develops as the concept of a holy, wise spirit within the human being develops.

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[113] Ibid., 109.

[114] Ibid., 111.

[115] Ibid., 110.

[116] Ibid., 112.

The Spirit in Qumran Writings and the Rise of Ritual Cleansing of the Spirit

The concept of the contamination of the soul or spirit was well brought out by the community of Qumran. Dualistic Persian Zoroastrian concepts are readily recognizable in their belief system of the two spirits of light and dark. The Prince of Light and the Angel of Darkness were believed to entice souls to follow the path of good or evil. The spirits are also "forces" within the individual which lead ultimately to fruitfulness or destruction.[119] The individuals who follow the spirit of Light are still subject to "contamination by the bad spirit, and so require a final perfecting from God's holy spirit."[120] Ritual cleansing, prayer and observance of the covenant are necessary for "establishing" the spirit of holiness.[121] Ritual cleansing is developed further in the New Testament. Why or how does ritual cleansing, prayer, and observance of the covenant cause holiness within is not a topic of discussion for traditional biblical scholars, even though development of the last idea was developed in the intertestamental period.

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[117] Ibid., 113.

[118] ibid., 114.

[119] Ibid.

[120] Ibid.

[121] Ibid.

Thus far, the growth of the tradition of spirit/*ruach* has as its foundation the spirit as wind and breath, a basic power of life and change, and in the earliest literature, also expressed as an enhanced physical power and the power of prophecy. The social environment and prayer affect the connection of the Spirit of God to the human spirit. The human spirit, associated increasingly with mind and perception, can become polluted and purified in association with the environment and learning. A process of purification and enhanced strength is described as dependent upon justice, ethics, and education. A purified and strengthened spirit may achieve a positive afterlife. In the earliest literature, the Spirit was cited as bringing change, this change is described further in the writings as a power of creativity, capable of bringing renewal or destruction. Proximity to the Spirit of God is expressed as dependent upon purification of the human spirit.

The Spirit and Connection to Matter in the New Testament

The Spirit as described in the letters of Paul

The earliest writings in the New Testament are the undisputed letters of Paul: 1 Thessalonians, 1 and 2 Corinthians, Philippians, Philemon, Galatians, and Romans. What will be examined first is Paul's distinction between body, soul, and spirit, then, how Paul adds to the definition of the qualities of spirit. Within this definition there is the concept of the Spirit of Christ, participation "in" the Spirit, and Paul's concept of spiritual gifts, *charistmata,* all as connective links between Spirit and individual. Following this will be a discussion of the relationship of the Spirit/spiritual gifts to the individual and community, in particular, the process for the individual acquiring spiritual "gifts." According to Moody, prior to the second century, the idea of *charismata* is only in the writings of Paul, 1 Peter, and Philo.[122]

A dualism of body and soul is evidenced in Paul's theology (1 Thess. 2:17; 3:12; 4:9-10; 5:12,23; 1 Cor. 2:14-15; 3:16; 12; 14; 15; 2 Cor. 1:22; 3:3-6, 8, 17, 18; 4:7,18; 5:1,5; 12:1f; Phil. 3:3; Gal. 5:16-24; 6:7-8; Rom 2:28-9; 8:5-6,10-15,29; 14:17; 15:16-9.) Montague states that for Paul, soul, spirit, and *nous* are almost identical."[123] For Birger Pearson however, there is a finer distinction expressed by Paul of body, soul, and spirit and these categories follow the Platonic and Gnostic distinctions.[124] For Paul, there is a transition he describes for the individual from the fleshly, to the soul-ish, to the spiritual individual, found especially in 1 Corinthians 3:1-9, which will be analyzed below in Chapter Six.

A primary concept of spirit in the earliest writings in the New Testament is the Spirit of Christ. Its earliest reference is as *presence now* in Philippians 1:19. The Spirit is described as source of support in time of need, in Paul's case, his imprisonment. Paul, in this instance in Philippians uses the Greek term *epichoregia*, meaning equipment or soldier's gear; the Spirit of Christ is Paul's strength and defense in his time of trial in prison.[125] Montague draws the analogy that the spirit of Moses empowered the elders and the spirit of Jesus empowers the Christian community.[126] The idea of a spiritual or divine being which is present in time of distress is also often found in Greek religion. In Romans, Paul states that God raised Jesus through the Holy Spirit (Rom. 1:4). Jesus then becomes life-giving Spirit (1 Cor. 15:44-45). Another connective concept for the Spirit of Christ to individuals is that Christ reflects "the image of God" (2 Cor. 4:4), and in Galatians, Paul states that "the Spirit of the Father is the Spirit of the Son" (Gal. 4:6). The connection between God's Spirit and material realm for the Christian is Christ as reflection of the image of God and present in time of need.

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[122] Moody, 93.

[123] Ibid, 137.

[124] Birger Pearson, *The Pneumatikos- Psychikos Terminology in 1 Corinthians,* Society of Biblical Literature Dissertation Series, 12 (Missoula, MT: Society of Biblical Literature, 1973).

[125] Montague, 132.

The concept of spiritual gifts as *power* is related by Shoemaker, Henry, and Moody, though Moule instead emphasizes spiritual gifts in terms of perception.

The earliest concept of the Spirit in the Hebrew Bible was of wind, as power which brings change. In describing the Spirit in Paul's writings, for Shoemaker this power is an aid in restraining the fleshly appetites, a dynamic, transforming power operating within the individual.[127] For Henry the power is an internal dynamic principle, bringing a transcendent order.[128] For Moody, the power is for enhanced life. For Montague, the Spirit brings the dynamics of growth.[129] Montague also notes Paul's use of the cognates of energy (1 Cor. 12:4-7). In 1 Corinthians 12, the words translated in English "workings" (of the spirit) and "inspires" are actually *energematon* and *energon.* At its most basic the Spirit is literally described in terms of an *energy* which internally transforms the individual. The spirit is an internal power of transformation.

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[126] Ibid, 135.

[127] Shoemaker, 61.

[128] Henry, 123, 132.

[129] Montague, 225.

The Spirit is further defined as gifts and fruits of the spirit. Montague states that the spiritual gifts are *charismata* "bestowed," with *charisma* meaning gift of grace, or grace-isms[130] While Orr and Walther, and Conzelmann in a footnote, state that the *charismata* are linked to preaching, generally the receiving of *charismata* are described in supernatural terms.[131] What is not fleshed out is that the context for Paul's use of charismata "bestowed" in 1 Corinthians 12 *is in contrast* to the boasting and arrogant reveling in spiritual phenomena by some individuals at Corinth. It is in this context that Paul must emphasize that the *pneumatika* are bestowed, and should not be taken out of context.

The ethic of the holy spirit is brought out by Paul, as he relates that the holy spirit is from God and so should be guarded as the treasure that it is (1 Thess. 4:1-8). Montague associates Paul's view with that of Ezekiel's: "I will put my spirit within you and make you live by my statutes" (Ezek. 37:14). He states, that "in Ezekiel 'the gift' of the spirit results in right moral conduct, even though it was not described as gift in Ezekiel, but as a process concerning release from exile.[132] Paul carries forward the view as that found in the Qumran community for the need to guard the spirit.

In the Hebrew Bible, and especially the intertestamental literature, the Spirit, both God's and the human spirit was defined as holy, wise, just, creative. As Montague notes, in 1 Thessalonians, the earliest expression of the spirit is as a source of power and joy (1 Thess. 1:4-6).[133] This power is related by Paul as the evidence of the charismatic in preaching and in the community of Thessalonika. Although the Spirit is associated with joy in the Hebrew bible, for example with the ecstatic prophets, many scholars do not draw attention to this association until the New Testament, and only then identify its presence earlier.[134] Montague summarizes his discussion of the earliest expressions of the spirit in the New Testament:

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[130] Conzelmann, 26; Montague, 134.

[131] Conzelmann, 27; Orr and Walther, 172.

[132] Montague, 129.

[133] Montague, 132.

> The holy spirit appears as the dynamic of the entire community that no easy analogue can be found in the Old Testament community, save perhaps in those prophetic groups where the spirit was given to all (Num. 11 and the prophets provided over by Samuel)."[135]

There is then the earliest expression of the holy spirit in the New Testament as a relational power and joy (emotion) shared among the community.

Paul lists in three places the enhanced powers which come from connection to the Spirit (1 Cor. 12:8-11; 27-28; Rom. 12:6-8).[136] "The first list functions to illustrate variety and unity."[137] The gifts are:

> utterance of wisdom, utterance of knowledge, faith, healing, working of miracles, prophecy, distinguishing between spirits, tongues, interpretation of tongues.[138]

1 Corinthians 12:27-28 lists gifts in order of importance, according to Montague, while Romans 12:6-8 demonstrates how to use the gifts. "Although such qualities are usually associated with age and experience," according to Montague, "it is also understood as gift

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[134] Spirit and joy are associated when David danced before the ark of the covenant entering Jerusalem, and when the company of prophets sang with instruments and Saul, in their company experienced prophetic ecstasy. The Psalms also associate joy with the companionship of the Spirit.

[135] Montague, 133.

[136] Montague includes in this list Eph. 4:11 which lists offices as gifts. Ibid, 149.

[137] Ibid.

[138] Ibid.

from God."[139] In this statement, Montague is expressing that the advent of the spirit is a combination of natural process and supernatural gift; the focus which will be developed in this dissertation is the *natural* changes wrought and how they are brought about. The gifts of the spirit as listed by Paul were seen in Wisdom literature (Job 32:7-9; Prov. 2:6; Dan 5:11-4; Wisd. of Sol. 1:6; 7:22-26; 9:13-18). While wisdom was also associated with Law (Sir. 15:1; 24:22) Paul instead equates the wisdom of God with Jesus, and him crucified (1 Cor. 1:24, 30). His person and his actions are a model for wisdom.

Montague explicates the gifts of the spirit in Paul's listings in relation to examples throughout the New Testament; a few are noted here. For the "gift of knowledge" Montague states that this gift is generally understood as insight into the mysteries of God, *epignosis*, but he also adds that "several instances reported of Jesus in the gospels show his amazing clairvoyance" about matters in the material realm, citing Matthew 11:2 and John 4:18.[140] Blenkinsopp had noted the same ability for the prophets Elijah and Elisha.[141] For the gift of miracles, Montague describes this as the operations of works of power, but limits his discussion to Peter and Paul each raising one who was dead, instead of the larger display of "power" cited in the churches by Paul, which would have indicated the presence of miracles, remaining silent on the topic of miracles, a tendency to be found in a Supernatural – Mechanistic framework. The gift of discernment of spirits, is literally, *diakrisis*, "a judgment through," an ability to see through. Examples he lists are Acts 5 (Ananias and Sapphira) and Acts 16:16-18 (a spirit possessing a slave girl), so discernment of spirits would be perceiving the nature of the spirit within an individual. Earlier, the idea of perception associated with the spirit occurred in the writings of Hosea. The gift of tongues Montague equates to "non-rational prayer of the heart or spirit."[142] Moody regards gifts of tongues as the work of the subconscious.[143]

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[139] Ibid.

[140] Ibid, 151.

[141] Blenkinsopp, 76.

Montague cites the difference between the gifts and fruits of the spirit, as the fruits being the effect of having the spirit.[144] For Henry, the gifts revive the soul, like water revives a garden, and the fruits emerge naturally.[145] The fruits are listed in Galatians 5:22f as faith, righteousness, hope, love, joy, peace, longsuffering, kindness, goodness, meekness, and self-control. In Galatians, Paul discusses how the fruits of the Spirit within the individual transcend the law.[146] To go back and follow the law nullifies Christ's work. For Montague, "the spirit is a creative agent because it transcends the law, it brings a higher ethic."[147] It is the power of the spirit which puts the deeds of the flesh to death (Rom. 8:1-13). In Complexity Theory, any transcendent creation cannot go back to the previous un-transcended state. Now Montague does not point this out, but in this text of Romans 8, Paul mentions five times what to set the mind on and what not to set the mind on. The lens of Complexity Theory helps to see what a crucial element this is. For any previous system to transcend itself there must be movement towards a center, or centering, required for emergence to occur. Montague summarizes Paul's discussion of the spirit (in the undisputed letters) by stating that the role of the spirit is that of the dynamics of growth; the Spirit of Christ, as the reflection of God's spirit, becomes "intertwined" with our spirit transforming us into his image.[148] How this intertwining occurs will be discussed in the exegesis of 1 Corinthians 3 in Chapter Six below.

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[142] Montague, 155.

[143] Moody, 93.

[144] Montague, 200.

[145] Henry, 105.

[146] Montague, 202.

[147] Ibid, 204.

Spirit and word were contrasted with the prophets prior to Ezekiel, with word having the place of prominence. With Paul, Spirit becomes prominent and there is freedom from the Law, the written word. However, the word now becomes for Paul proclamation. For Paul there is a new covenant of the spirit which brings "a new order of salvation."[149] This transformation brings freedom, which Montague points out, is not just freedom from something, but entry into "paradisal glory," a higher dimension of existence.[150]

The Spiritual gifts are received in union with the Spirit of Christ. Paul brings out the view of "openness" to God's spirit in order to receive the "gifts."[151] Paul says to actively seek the spiritual gifts. The word for seek is *zeloute,* which comes from the root verb meaning to boil, bubble, glow, which suggests active seeking, rather than a passive receiving of these gifts. In seeking, work is inputted in order to receive the *pneumatika.* For Montague, "intense prayer" is the mode of this "active seeking."[152] Another way of connecting to the Spirit is though belief, in particular faith, hope, and love (1 Cor. 12:7).

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[148] Ibid., 225.

[149] Ibid., 180.

[150] Ibid., 189.

[151] Ibid., 137.

[152] Ibid., 173.

Montague points out Paul's instructions to "make love your aim" (1 Cor. 14:1). Love is then a center, and the process above describes putting work in, such as focusing the mind on thoughts of faith and hope as well as acting in love (1 Cor. 14:1). The affects of all the above are in theory, the *pneumatika*, such as healing and the producing of miracles. Thus, Paul's concept of the interconnection of the human being with God is a very active concept. One connects with the Spirit of Christ, who is in the likeness of God, and the method is one of action. Spiritual practices produce a stronger spirit, a spirit transformed from its earlier state of fleshly or soul-ish, to the spiritual. Spiritual gifts are "growth" in a human "laboratory in which God is experienced" with the effectual "build up of spirit in the individual" states Montague.[153] Henry discusses the transformation of the person in terms of an imprint of God's nature. First, he says, the image of God is in everyone. Secondly, if one knows and loves God, there is a greater imprint of the Divine Nature. Thirdly, those who "participate" in the Divine Nature, have a deeper imprint and "the image of God shines in us."[154] The physical and neurological transformations through this active pursuit to connect with the Divine Spirit and how the image of God shines in us will be discussed below in terms of Complexity Theory and Neurobiology in Chapter Six.

The Spirit in the Pastoral Epistles

In the Pastoral Epistles, the distinction is made between renewal of the spirit versus rebirth of the spirit. Montague notes that for the writer of the letter to Titus there is a rebirth at baptism and then a renewal experienced as the effect of the Spirit of Jesus in the believer's life (Titus 3:4-7). The word used by the writer of the letter to Titus for renewal is *anakainosis*. Renewal in this sense

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[153] Ibid., 173-75.

[154] Henry, 113.

> "is taken from the realm of art. Like an artist carefully restoring a faded or damaged masterpiece, the Holy Spirit works upon the Christian until the divine image is restored."[155]

Paul had spoken of being transformed into the image of the Divine in 2 Corinthians 3:18 and the renewal of the inner nature in 2 Corinthians 4:16. For the deutero-Paulinist of Titus then, and even for Paul's pneumatology, this passage brings out the concept more clearly that the divine image is within each person, it fades over time, and needs restoration to its original pure state, as expressed by writers in the Hebrew Bible and intertestemental literature described above. How this renewal occurs will be discussed in Chapter Six.

2 Timothy 3:16 states that "all scripture is inspired by God" with the scripture in question being the Hebrew Bible, and the words therein convey the "wisdom of God as a guide to live by."[156] In this letter there is a close connection between spirit and word, which was not the case in Paul's undisputed letters, except that Paul himself brings the word about Christ. As in the passage from Titus above, Timothy is urged to "rekindle" or "fan the flame" of the gift that is in him (2 Tim. 1:6-7). The Spirit in this letter is equated with power, love, and self-control (2 Tim. 1:7; 13-14). For Montague this power is the power of love, described as a force which transforms the individual.

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[155] Ibid., 231.

[156] Ibid., 232.

The Synoptic Gospels

For Mark and Matthew, the Holy Spirit is related to Jesus at his baptism and transfiguration, but for Luke it is related to Jesus in the womb.[157] For Luke, Jesus is said to be "full of the Spirit" (Luke 4:1,2,14). Montague points out that Luke uses *pleres* rather than *plestheis,* indicating that the fullness of the Spirit is continual. In Luke's gospel, "the spirit of the Lord is upon" Jesus and he is said to bring release to the captives (4:18; Isa. 61:1-2). The Spirit of the Lord upon Jesus replaces the theme of the imminent coming of the kingdom for Luke, "as second generation Christians raised anxious questions concerning the delay of the parousia."[158] The kingdom is here in their midst, it has arrived, and Jesus proclaims its arrival as one proclaims the year of Jubilee. The Spirit is the kingdom for Luke.

Montague asks, "How does he who is full of the Spirit become donor of the spirit?" This question will be investigated in Chapter Six. Luke's answer is to stay in the city until "you are clothed with power from on high" (Luke 24:49). According to Montague, "the gift of the spirit" is received at Pentecost (Acts 1-2). Further, those who are baptized in the name of Jesus receive the gift of the Holy Spirit (Acts 2:38). Prayer is also associated with receiving the gift of the Holy Spirit (3:21-22; 11:1,13). The Spirit at Pentecost is pictured with wind and fire, images from the Hebrew Bible. Montague notes that the idea of the "gift" of power from on high is found in Psalm 68 and its association of the celebration of Pentecost.[159] "Power" occurs six times in the psalm with the people asking for God's power from the skies. In the Septuagint, the word power is translated *dynamis*, which is the same word Luke uses for the coming of the Spirit (Luke 24:49; Acts 1:8). It is only Luke who relates that the Holy Spirit was given at Pentecost. Pentecost, Montague notes, was a renewal offering of the first offering made fifty days earlier at the feast of the unleavened bread, or first fruits.[160] Behind Luke's text is the idea of the renewal of the spirit within, in which God pours out a portion of the divine Spirit (Acts 2:17).

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[157] Ibid., 267.

[158] Ibid., 269.

[159] Ibid., 275.

In Luke and Acts, the article is usually not present when one is said to be filled with "Holy Spirit" (Luke 1:13,41,67; 4:1; Acts 4:8; 6:5; 7:55; 9:17; 11:24; 13:9). Individuals are filled with Holy Spirit, or simply, holy spirit.[161] This is in contrast to Paul's explicit statements. "Paul never uses the word [holy] in the singular of the individual Christians, according to Conzelmann.[162] Luke is not envisioning a third person of the Trinity, which is of course a later development. Montague points out that in Greek grammar when a person or subject is introduced for the first time the article is not present, but when referred to again the article is present. The passages in Greek cited above do not follow such a grammatical concept. The Lukan writer's view is that individuals may be filled with holy spirit, whereas in Paul's writings there was a transformation process cited.

An important theme in Acts is the Holy Spirit active in the development of the Church (Acts 3-28). The tongues of fire at Pentecost, explained by Peter in Acts as the fulfillment of Joel's prophecy, compelled Jesus' followers to speak out, just as the prophets were compelled by the Spirit to speak out. Those who were not followers of Jesus but present did not speak in tongues, but heard each speaking in his or her own language, so there was a miracle of hearing as Montague calls it.[163] The "little Pentecost" of Acts 4:23-31 offers Luke's relationship of the Holy Spirit and the name of Jesus. When Peter and John were praying in the name of Jesus for cures to heal, signs and wonders, the whole house shook and they were filled with the Holy Spirit. Montague uses the language of science to explicate the activity of the Spirit in the development of the Church:

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[160] Ibid., 276.

[161] Ibid.

[162] Conzelmann, 23.

> "In the centrifugal unfolding of the church's life, tongues and prophecy precede healing, exorcism, and other signs, while in the centripetal movement, healings, exorcisms and other signs precede, as attractions to the name of Jesus and through that door to the Holy Spirit and the 'domestic' gifts of tongues and prophecy."[164]

It is the use of this scientific language and not necessarily his conclusion that I find interesting. To define the movement of Spirit he is using the language of physics, of energy and the movement of energy towards a center. He has also used the term "unfolding," offering the image of a moving out from a center. These movements are periodic movements in an increasing build-up of complex systems described by complexity theory, which will be discussed below.

The presence and power of the Holy Spirit is a primary theme in Luke, for Matthew it is the presence and power of the risen Lord.[165] Matthew does not need the

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[163] Montague, 289.

[164] Ibid., 290.

[165] Ibid., 307.

Holy Spirit to empower the church because Jesus is still present: "Wherever two or three are gathered, he is there" (18:20).[166] Although Matthew's pneumatology is not as rich as the Lukan pneumatology, the gospel of Matthew does carry the warning against speaking against the Holy Spirit, which Montague believes is the Spirit of Jesus. To speak against this Holy Spirit is to speak against the resurrection itself.[167]

The Spirit in James, Jude, 1 Peter and Hebrews

In regards to the pneumatology of the Catholic Epistles, in the letter of James *pneuma* only appears once: "He yearns jealously over the spirit which he has made to dwell in us" (James 4:5). Montague states that no one has been able to identify conclusively the origin of the quotation from scripture. It is curious that he does not identify this passage with Genesis 6:3. The view from James is that the divine spirit is within.

In Jude, *pneuma* appears twice. There are *psychichos* people, devoid of spirit, in contrast it is said "but you beloved, build yourselves up on your most holy faith; pray in the Holy Spirit; keep yourselves in the love of God" (Jude 19-20). *Pneuma* in this letter is used very closely to the usage of Paul. Paul distinguishes between *psychichos* and *pneumatikos*, the soul-ish and the more advanced spiritual people (1 Cor. 2:14-16). Paul often references "in the spirit" specifically for prayer and "building up" the spirit and the church (1 Thess 5:11). As does the writer of Jude, Paul also closely associates the spirit with the emotion of love (1 Cor. 13).

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[166] Ibid.

[167] Ibid.

I Peter, on the other hand represents spirit quite differently from the previous New Testament writers. Peter is the only one who identifies the spirit of the prophets of the Hebrew Bible with the Spirit of Christ (1:10); that is, that it was Christ's spirit rather than God's that was working in the prophets. Montague states that it is quite remarkable that the Spirit of Christ appears on the scene before Christ himself.[168] How he handles this unsettling concept is to say that "the same spirit was working in both."[169]

For the writer of Hebrews, the Holy Spirit is associated with enlightenment, which is linked with "sharing in the heavenly gift." Here there is an association of mind, spirit, and "light." The writer of Hebrews uses *metachoi,* "sharing in" Christ and the Holy Spirit (3:14; 6:5). This sharing in the divine Spirit gives the believer the foretaste of heaven (6:5).

The Spirit in the Revelation of John, 1 John, and the Gospel of John

In the Revelation of John, the writer of Revelation is "raptured into the spirit world" full of visions, voices, and a cosmic drama, carried by the power of the Spirit.[170] Set most likely in Domitian's reign, the prophet offers a description of conflict in the present and visions of the future.[171] Use of the word power to describe spirit again arises as Montague states that "the literary power of revelation" is "symbolic language."[172] He offers the meaning of many of the symbols in the text. Images, allegory, and numbers were also prominent in Ezekiel's visions. The author of the Revelation of John never uses the term "the Holy Spirit," instead uses "the Spirit" and "spirits" as in Ezekiel. Montague uses the term "psychic state" to describe the author's description of being "in spirit" and "carried away in spirit" (1:10; 4:2; 17:3; 21:10). The revelation is mediated by the Son of Man identified as Jesus, the angel of Jesus Christ, the heavenly voice, and the Spirit. There are many references to unclean spirits and false prophets who lead many to follow the beast. Montague states that it is difficult to reconcile "the fluid pneumatology of Revelation with Trinitarian concepts."[173] Unlike Paul's writings where there was one Spirit with diverse manifestations, for this writer there are multiple spirits with various activities.

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[168] Ibid., 313.

[169] Ibid.

[170] Ibid., 321.

[171] Ibid.

[172] Ibid.

The finale of the book of revelation is the image of the river which flows from the throne of God and the lamb. The river, bringing abundant life, fruitfulness, and healing, symbolizes the Spirit within creation, according to Montague.[174] The image is based on motifs from Ezekiel 47, where water flows from the temple into a great river. It was in Isaiah that the image of the Spirit pouring forth and bringing fruitfulness to the land first appeared (Isa. 32:15). Then in Second Isaiah the pouring out of the Spirit covers both the dry land and the descendants (Isa. 44:3). Montague also aligns John 7:39-39 with this tradition in which "the rivers of living water are identified as the Spirit to be given upon the glorification of Jesus." The imagery of the river in the book of Revelation is that of "life renewing spirit."[175]

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[173] Ibid., 327.

[174] Ibid., 321.

[175] Ibid.

In 1 John, it is *the Spirit of God* which dwells in the believer (1 John 4:13-14). Montague associates "the anointing that comes from the Holy One" to be the anointing of the Holy Spirit based on 1 John 4:13-14 as well as tradition criticism of anointing associated with the Holy Spirit found in the texts of 1 Samuel 10:1ff to Jesus' anointing by the Spirit in Luke 4:18 to that in 2 Corinthians 1:21. According to Montague, the effect of the anointing of the Spirit for 1 John is "divine teaching interiorly assimilated."[176]

> "But you have the anointing that comes from the Holy One, so that all knowledge is yours...The anointing you received from him remains in your hearts. This means you have no need for anyone to teach you."
> (1 John 2:20, 27).

As Montague rightly points out, this should not be taken out of context for the writer of 1 John had stated earlier in the letter that the listeners had received the word, therefore they had been taught by individuals proclaiming the word. The anointing of the word is the hearing of the word.

In the gospel of John, one is to be born again, *anothen*, or from above, and "begotten of the Spirit" (3:5-8). Montague indicates the biblical tradition behind "begotten of the Spirit." From Ezekiel there was the idea of the Spirit as agent of renewal. From the Psalter came the idea of spiritual adoption for the king (Ps. 2:7). From Isaiah, the anointed king was to be endowed with Spirit (11:2). Third Isaiah presented messianic Israel as a new birth (Isa. 66:7-9). Hosea referred to Israel as son by adoption called out of Egypt (11:7). Paul spoke of son-ship in terms of adoption (Gal.

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[176] Ibid,, 335.

4:6). From the letter to Titus there was the idea of the bath of regeneration and renewal by the Holy Spirit. For John, the Spirit is the agent of new life (3:5-8).[177]

For both the gospel of John and Paul the regenerated spirit stems from the resurrected Jesus. Unlike Paul however, for John the Spirit comes directly from Jesus' side. First, it comes metaphorically, in terms of imagery of the blood and water from his side. Then secondly, from the Paraclete, the personified Spirit who is sent from Jesus and literally, called to one's side (15:26). This is a spirit of truth which "empowers" the disciples to witness.[178]

The Prologue to the gospel of John cites Jesus as the *Logos* and as light, as a "god" from the beginning with God. This heightened Christology describes Christ as a bearer of light who conveys truth, light, and grace to those who are able to receive. The concept of receptivity will be discussed in the exegesis of John 1 in Chapter Six below, as well as Jesus as light-bearer and *Logos*. The history of the concept of *Logos* in Greek philosophy and the historical idea of light in creation will be presented in Chapters Two and Three.

Conclusion

The growth of the tradition of the spirit has been charted as a river flowing picking up more and more complexity with each stage.[179] The Spirit throughout is the power of life and regenerated life. It is also a power for prophecy which compels the prophet to speak out for justice. The Spirit brings wisdom, insight, knowledge, and truth to individuals. It is the power of miracles and the power of love. The Spirit has been associated with enhanced energy, mind, and emotion.

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[177] Ibid,, 342.

[178] Ibid,, 354.

[179] The metaphor of "river" has been employed by Riley to describe the growth in the rise of complexity of early Christian concepts contributing to Christianity from the "tributaries" of major civilizations. Riley, *River of God*.

There is a distinction between the human spirit and the regenerated spirit. In the Hebrew Bible, the view was expressed that the human spirit is from God's Spirit. The human spirit over time becomes impure and is in need of regeneration by God's Spirit. The rise of the concept of "holy spirit" becomes pronounced in the Exile, as revitalization of land and people is expressed. Images of God's holy (as an adjective, not a title) Spirit being poured out over the land and people are how the prophets envision this revitalization.

In post-exilic writings, the Spirit is presented as all pervasive and ever present throughout creation as well as present within the human being (Ps. 31:6; 139:7; 104:27-30; 143:7; 51:12-14).[180] Since this spirit comes from God, it is sometimes called 'the spirit of God' or 'the holy spirit of God' even when referring to a constituent part of the human being." (Targum J.I. Gen 6:3). To strengthen this spirit within, 2 Maccabees and Sirach advocate reading the Torah and prayer, then one will be "filled with a spirit of understanding" (2 Macc. 7:23; Sir. 39:1-5). This is developed further in the chain saying of Rabbi Pinchas ben Yair. The rabbi is describing a process to purify the spirit within, to have the holy spirit within. It is a natural process, founded on the concept that the spirit is within, can become contaminated and in need of purification. It advocates action and education to purify and strengthen the spirit within. The Spirit was early on described as breath of life, as physical power activated in response to social environmental pressures, and also associated with an intellectual aspect, the power of perception, stemming from the early concept of prophecy.

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[180] Montague, 75.

In the Christian era, in the writings of Paul, revitalization of the human spirit comes through association with the Spirit of Christ, expressed as a reflection of God's Spirit, and through hearing the proclamation of Christ. Paul employs the technical distinctions of the human spirit reflective of Christ's spirit as the soul which has experienced growth. For the writer of 1 John and the gospel of John, receiving the word, or education, renews and purifies the spirit (though for 1 John this assessment comes through the context of the letter as a whole). Connection to Spirit has been expressed as enhanced through hearing the divine word and in connection with the spirit of Jesus as the truth bearer, light bearer and reinterpreted as *Logos*/word/reason.

A working definition of "spirit" based on a review of the biblical texts and intertestamental literature (with the understanding that differences exist and have been indicated above throughout) which will be carried forward is that the spirit is a force which conveys power, intelligence, and emotion (love and joy). This Spirit is the Spirit of God and is the same spirit within the human being, which can become corrupted over time. Education in spiritual matters purifies and strengthens the spirit. The Spirit of Jesus in Christian writings has been identified as a means to purify and amplify the soul/spirit within for those who receive the word. The Spirit is a dynamic power of life and growth witnessed within the individual and among the community.

CHAPTER TWO

THE COSMOLOGIES OF THE EARLY GREEK PHILOSOPHERS AND THE RELATIONSHIP BETWEEN THE DIVINE AND WORLD IN THE PRE-CHRISTIAN ERA

Introduction

In the sixth century BCE, earlier findings in astronomy and mathematics would give rise to new cosmological models proposed by Greek "natural philosophers." The term, the *Cosmos*, meaning the Order was first coined by Pythagoras in the sixth century BCE.[1] The Order philosophers were responding to was that displayed by the organized movement of the planets, sun and moon based on findings in astronomy, as well as the development of mathematics. Previous to the sixth century BCE, the concept of the "three story universe" was the dominate worldview with the sky above, earth in the middle, and underworld below.[2] The findings from Mesopotamian and Egyptian astronomy and mathematics suggested that this model be adjusted, and so alternative cosmological models were proposed and constructed by early Greek philosophers. The shift in cosmology brought about by science, astronomy and mathematical modeling of complex period functions,[3] prompted questions about the nature of the Divine realm, and as a result, how the world related to the new conceptions of the Divine. In essence, the new scientific data required a "larger god."[4] Even today, as contemporary science offers new cosmological ideas, such as a multidimensional universe and String Theory, the theologian naturally asks, where is God?

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[1] Diogenes Laertius, *Lives of Eminent Philosophers*, Loeb Classical Library; Aetius, 2.1.1; G. S. Kirk and J.E. Raven, *The Pre-Socratic Philosophers* (Cambridge: The University Press, 1963), 229.

[2] In this model the earth was pictured as a saucer with a teacup shape on top for the sky, and the stars set across the upper edge of the cup, and planets moving across the dome. Underneath the saucer was the underworld, while surrounding it all was water. Gregory Riley, *The River of God: A New History of Christian Origins* (San Francisco: HarperSanFrancisco, 2001), 27.

[3] David Brown, *Mesopotamian Planetary Astronomy-Astrology,* Cuneiform Monographs (Groningen, The Netherlands: Styx Publications, 2000).

In this chapter, Greek cosmological models will be reviewed to trace the history of the growth of the tradition of how the Divine and human relate to each other. The primary expression in these models is the rise of monotheism and the geocentric universe, in time replacing polytheistic models and the three story universe. The trend in philosophical pursuit was how the One, as Source of the evident order in the Cosmos, gave rise to the many. Theories of knowledge were put forth by the Greek philosophers to answer questions of how we relate to the Cosmos and the Divine. Cosmological models of the pre-Socratics would be modified by Plato, Aristotle, and the Stoics, who then would influence the rise of Middle Platonism, Jewish philosophy, Gnosticism and Christianity. In the early Christian era, the question became how does Jesus fit into the monotheistic model, how does one adjust the Cosmology to allow for essentially two gods (Jesus is *monogenes theos* in John 1:18). Highlighted below will be philosophic and religious insights which *would not become part* of the dominant Christian conceptions, but provide valuable models and trajectories in dialogue with contemporary science to address the issue of the connection between God and the world of matter. In this chapter, the movement of thought of how the Divine and world are connected will be traced from the Pre-Socratics, to Plato, Aristotle, and the Stoics, to Middle Platonism and Gnosticism. In Chapter Three, the rise of dominant Christian traditions will be examined based upon the Greek philosophical background.

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[4] Riley, *River of God*, 41.

Divine-Human Interaction in a Three-Story Cosmology

Prior to sixth century BCE advances in science, the three-story universe dominated theological cosmology in the Ancient Near East, with henotheistic models and anthropomorphic images being dominant, with the gods and goddesses living among us. In Homer's *Iliad* and *Odyssey*, the three-story universe is described in terms of a round flat earth, with the sky as a solid hemisphere, bright and shining with the stars attached set atop of the earth.[5] In between earth and the solid hemisphere of sky is air, or mist, then *aither* above, which is sometimes described as fiery.[6] Below the earth is dark Hades, then the deepest, *Tartarus*. Around the world system is the river *Oceanus*, the source of gods and all things, according to Homer.[7] The world of matter for the Greeks is full of gods divine. Besides Olympian and Chthonic gods, there are gods and goddesses of rivers and streams, grottoes and forests, sun, moon and stars. Nature is alive with the divine. The earth is first and foremost the abode of the gods. There is a light to dark progression from above to below, the brazen sky, Helios and shining Zeus above in contrast to the dark, gloomy underworld.

An early cosmogony is offered by Hesiod in *The Theogony* and *Works and Days*.[8] Hesiod's information on the origin of the world he credits to the divine Muses who breathe into him a divine voice, offering insight on past, present, and future.[9] In

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[5] The sky is described in terms of brass and iron by Homer and a molten mirror in Job. Homer, *Iliad,* 17. 425; 5. 504; Homer *Odyssey* 3.2; 15.329; 17.565. See Job 37:18 as well.

[6] In the *Iliad*, a fir tree reaches through the air to the *aither*. Homer *Iliad,* 14.288; Kirk and Raven, 10.

[7] Homer *Iliad* 18.607; 21.194; 14.200, 244.

[8] Hesiod *Theogony;* Hesiod *Works and Days*; Hippolytus *Refutation of All Heresies* 1.23.

[9] Hesiod *The Theogony* 2.29-35.

Hesiod's cosmogony, the originating principle is *Chaos,* a goddess of material substance.[10] From this comes the divine goddess Earth, the throne of immortals, *Tartarus* and the goddess *Eros.*[11] From *Chaos* comes forth *Erebus* (darkness) and black Night, and from Night comes forth *Aither* "the bright untainted upper atmosphere, distinguished from air, the lower atmosphere."[12] Earth gives birth to "starry" Heaven, the Hills, and *Pontus* (the fruitless deep).[13] From the union of Earth and Heaven comes *Oceanus*, a river which surrounds the world and gives rise to gods and goddesses and countless streams and rivers, all portrayed as divine. Earth and Heaven's youngest child is *Cronos,* Time, who is mythologically portrayed as killing Heaven, effectively separating the two.[14] Time separates Earth and Heaven.[15]

The one divine source Chaos generates the all. According to Aristotle *chaos* means space or expanse, though the concept of space stems possibly from Pythagoras or Zeno, in either case it would be later.[16] According to Stoic usage, *chaos* is linguistically derived from *cheisthai,* meaning that which is poured out. From proto-Indo-European etymology, *ghn,* or *ghen* means gape, wide open, similar to the Greek, *cha,* meaning gape, gap, yawn as in *chainein*, or *chaskein*, or *chasma*, a chasm. In the *Theogony* itself, Hesiod supplies clues to defining *chaos*. When Zeus hurls the lightening bolts at the

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[10] Riley, *The River of God,* 26.

[11] Hesiod *Theogony* 116.

[12] Hesiod *Theogony* 125, 87, n.2.

[13] Hesiod *Theogony* 126f.

[14] Hesiod *Theogony* 137f. Heaven had hidden his ill-formed children away, keeping them from the light, grieving Mother Earth. So her son Cronos avenges the crime.

[15] Hesiod *Theogony* 157.

[16] Aristotle *Physics* 4.1.29; Kirk and Raven, 26.

Titans, Hesiod offers a description of *chaos* during the battle and afterwards. It is stated that

> "The life-giving earth crashed around in burning, and the vast wood crackled loud with fire all about. All the land seethed, and Ocean's streams and unfruitful sea. The hot vapor lapped round the earthborn Titans: flame unspeakable rose to the bright upper air: the flashing glare of the thunderstone and lightning blinded their eyes for all that they were strong. Astounding heat seized *Chaos* and to see with eyes and to hear the sound with ears it seemed even as if Earth and wide Heaven above came together..."[17]

After the battle, the Titans are locked away in Tartarus deep below the earth. "There lives the Titans, beyond gloomy chaos."[18] Tartarus is called "a great *chasma*, gulf."[19] It is so deep that "an anvil falling for nine days would not reach Tartarus until the tenth."[20] If one were to walk down, the floor would not be reached for a whole year, "but cruel blast upon blast would carry one this way and that."[21] It is dark, such that Night spreads around it three times like a necklace.[22] Euripides, clearly following Hesiod defines Tartarus as dark *chaos,* gloomy and windy. With these indications, it would appear that *Chaos* is the deep, dark, gap, filled with cross currents of motion of fine matter, such as that found between the solid earth and the solid hemisphere comprised of winds of air, mist or *aither.* This dark, finely particled motive substance is Hesiod's generative substance of all that is, earth, heaven, gods, and humans.

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[17] Hesiod *Theogony* 693f.

[18] Hesiod *Theogony* 869.

[19] Hesiod *Theogony* 738.

[20] Hesiod *Theogony* 735.

[21] Hesiod *Theogony* 736f.

[22] Hesiod *Theogony* 727.

In the *Theogony,* kings and heroes are described as the literal offspring of the gods.[23] Both gods and humans are comprised of material substance, with the gods made of lighter substance, in fact usually light or air, and humans of heavier, darker matter.[24] In *Works and Days*, the generations of humans is described in terms of a descent from nobleness and harmony to hardship and strife. [25] First, the Olympian gods make a Golden race of mortals in the time of *Cronos*. This is followed by a second generation of Silver, described as dishonorable and foolish. When they die out, Zeus makes a third generation, the violent Bronze Age where mortals destroy one another. Before the last generation, there is a fourth generation, the Heroic Age which is the age of demi-gods, an honorable, god-like race of heroes. Lastly, Hesiod describes the present age, a race of Iron made by Zeus, where the wicked hurt the worthy and there is no reverence for the gods. There is a downhill slide of ethics and morality from the earliest golden times to the present epoch in which humans are irreverent towards the gods, with the exception of the Heroic Age.[26] While souls from the Silver and Bronze age go to darkness below after death, the heroes go to the paradise-like Island of the Blessed, and the Golden Age souls, *daimones*, stay above earth watching over the innocent. Hesiod describes a movement of the world through time from love and light to darkness and strife, with the exception of the heroes who take a stand for a just cause.[27] The heroes are described as Sons and

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[23] Hesiod *Theogony* 727.

[24] Riley, *River of God,* 26-7.

[25] Hesiod *Works and Days* 110-201.

[26] Hesiod *Works and Days* 110-201.

[27] See Riley's discussion of the heroic code. Gregory Riley, *One Jesus, Many Christs* (San Francisco: HarperSanFrancisco, 1997), 36f.

Daughters of the gods, and after death do not go down to dark Hades, but live above in light.

A similar cosmology and cosmogony is found in Egypt. A creation myth from Heliopolis, outside of Cairo, and dated to ca. 3,000 BCE describes all creation emerging out of Nun, divine swirling water. Out of the waters arose Atum, the shining sun god on a high hill. From Atum emerge the lightest elements of air, the god Shu, and mist, the goddess Tefnut. These two merge, giving rise to Geb the earth god and Nut the sky goddess. Together they produce the anthropomorphic gods and goddesses Osiris, Isis, Seth, and Nepthys, and these four produce humans. Humans are the children of the gods. An early cosmology portrays the Air god holding up the Sky goddess whose body is stretched out as an arch, with Geb lying at the feet of Air. As in Greece, the Sky is as solid as Earth. The idea of Khnum making humans and animals on his potter's wheel is a much later idea from the fourteenth century BCE from the temple of Esna, and used for legitimizing claims to the throne by kings who would picture Khnum creating the future king on his wheel.

The earliest creation myths from Mesopotamia likewise depict water generative of the gods of nature. In the Sumerian creation myth, Nammu, the sea goddess, Mother of heaven and earth, births into existence An, the Sky god, and Ki, Earth goddess. The myth states that there was a time before Heaven was separated from Earth, and Earth separated from Heaven. In an early Babylonian myth, Saltwater Tiamet and Fresh water Apsu merge forming the primeval gods Lahmu and Lahamu, who are the parents of Anshar and Kishar, who are between earth and sky. Before they were generated there was no space between earth and sky. The Mesopotamian myths show structure developing from a watery divine source. Humans are not however described as the offspring of the gods. Humans are made out of clay, with a divine substance mixed in, and are made as workers for the divine assembly. While made in the image of the god in one Sumerian myth, humans are not generated from the divine, not sons and daughters of the gods.

In the three-story universe, throughout the Mediterranean, the gods lived on the earth – whether land, sky, or water – and related to humans in anthropomorphic terms. In Mesopotamia, the god Anu was thought to reside "at the source of the twin rivers."[28] The storm god Ba'al resided on a mountain in northern Canaan; the Greek gods on Mt. Olympus, though technically Zeus' domain was the sky and *aither*.[29] In such polytheistic cultures, there were also gods of particular domains of nature and of function. There were gods and goddesses of the sea, the rivers, the winds, fertility of crops and humans, love, the cultural arts, music, disease and healing, all with their respective earthly abodes. For example, the gods of the winds came from the cardinal direction in which the wind was associated and were considered the wind personified.[30] Gods of the underworld lived below the earth. The Sumerian underworld domain of the goddess Ereshkigal came with a gate and a gatekeeper, Neti.[31] For the Greeks, Hades had a house with a gate and a basement, Tarturus. The Canaanite god of Death and the Underworld, Mavet, ruled the underworld city of Miry. The Greeks divided their world into thirds, with Zeus ruling sky, Poseidon the sea, and Hades the underworld, and all three sharing the earth.

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[28] Alan Millard, "Cradle of Civilization: The Ancient Near East," in *Eerdman's Handbook to the World's Religions,* rev. ed. (Grand Rapids: Eerdmans, 1994), 69.

[29] Homer *Iliad* 15.192. Zeus' brothers Hades, ruled the underworld and Poseidon the sea. The world was divided into thirds, each ruling his own domain.

[30] Henry, 7-8.

[31] "The Descent of Inanna in the Underworld," in *Ancient Near Eastern Texts Relating to the Old Testament,* ed. James Pritchard, 3rd ed. (Princeton: Princeton University Press, 1969).

Perhaps stating the obvious, the connection between the divine and human was personal relationship as superior to inferior. Permission or blessing was required to tread upon the deities' specific domain as one would ask permission from a land holder. Before sailing, prayers and offerings were made to Poseidon who ruled the sea.[32] Before planting, prayers and offerings were offered to fertility gods and goddesses for their protection and blessings on the new crops. If one killed the cattle on the island of Helios or Artemis' stag in her sacred grove, a price was exacted just as if a commoner was found hunting on the landowner's property.[33] The relationship between Divine gods of light and air was in anthropomorphic terms, as Person to person. Religious insights from a three-story universe worldview elaborately described the gods as personal beings who lived among us. The essence of nature itself was comprised of deities personified.

Miracles were expressed as aid and gifts, as one person helping or giving to another. The king calls upon the weather god of Hatti for rain in time of a drought, wondering what the community could have done to have the god withhold the rain, and promising better behavior.[34] The Greek goddess Athena helps persons in need, offering inspiration for invention, and was known as the goddess of nearness, said to have given forethought to Odysseus in his time of need.[35] Votive devotions were common in ancient civilizations expressing gratitude to deities for their healing powers; epigraphic evidence for the god Asclepius is particularly abundant.[36] Miracle, derived from the Latin *mirus*, a wonderful happening, was in Greek expressed as *dynamis,* power, and associated in literature with *arete,* indicating the virtue or goodness of the gods. Viewed as a wonderful gift bestowed on behalf of the goodness and power of the gods, the gesture implied relationship and appropriate reciprocity on the part of the recipient in terms of worship or devotion. It was considered the right and honorable thing to do, to give reverence to the gods for life, sustenance and gifts bestowed.[37]

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[32] Homer *The Odyssey* 4.351-354.

[33] Homer *The Odyssey* 12; *Myth of Iphegenia.* The animals were cherished as pets.

[34] Millard, 69.

[35] Homer *The Odyssey* 5.437.

Called upon in prayer and spoken to as gods of light and air, enlightenment may also be bestowed.[38] Priests and Diviners aided in communication as intermediaries.[39] The Naditu of Sippur were daughters of high ranking officials who were cloistered for the purpose of praying for the state.[40] Babylonian priests compiled encyclopedias of divination. The Pythia at Delphi was well versed in reaching a trance state to make inquiries to the god Apollos on behalf of the public.[41] Apollos was known as the god of light, truth, prophecy, music, and healing. The Persian god Mithras was also known as a god of light and truth, who was associated with Ahura Mazda in Zoroastrianism, and had his own mystery cult in the Roman Empire in the first century BCE. The Mystery Religions specialized in offering divine truth to its adherents, from which the word mysticism comes. Communication to deities was modeled as person to person, though the gods were pictured consisting of the lighter elements, and gave enlightenment, with priestly intermediaries often aiding in the communication process.

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[36] Fritz Graf, "Asclepius," in *The Oxford Companion to Classical Civilization,* ed. Simon Hornblower and Anthony Spawforth (Oxford: Oxford University Press, 1998), 85-87.

[37] Hesiod *Works and Days* 185.

[38] Riley, *River of God*, 40.

[39] Priestly offices could also be regarded as civic positions which required appointment or election. "Priests" in *Oxford Companion to Classical Civilization*, 570.

[40] Amelie Kuhrt, *The Ancient Hear East c. 3000-330 BC* (London: Routledge, 1995).

[41] Christiane Sourvinou-Inwood, "Delphic oracle," in *The Oxford Companion to Classical Civilization*, 217.

The world of matter, as the abode of gods and humans, could become physically, morally, and spiritually defiled, requiring either divine or human action to cleanse the darkness. Purification rituals functioned as a means to re-establish the connection of humans to the divine, with priests aiding as professional intermediaries in difficult cases. Ritual cleansing may be achieved through water, fire, fumigation, or blood.[42] In Homer and Hesiod, one is cautioned to wash hands before crossing a river, as rivers were considered divine.[43] In the *Odyssey*, Odysseus' bloody retribution against the suitors who have abused his household in his absence restores justice, while also requiring a cleansing of the home to remove the defilement of the bloodbath. Violence, cruelty, and oppression were considered a pollution upon the divine world of matter, requiring a counter-balancing action to set the world back into equilibrium, hence Zeus' "scales of justice."

> "But for those who practice violence and cruel deeds far-seeing Zeus, the son of Cronos, ordains a punishment. Often even a whole city suffers for a bad man who sins and devises presumptuous deeds, and the son of Cronos lays great trouble upon the people, famine and plague together, so that the men perish away, and their women do not bear children, and their houses become few, through the contriving of Olympian Zeus. And again, at another time, the son of Cronos either destroys their wide army, or their walls, or else makes an end of their ships on the sea.[44]

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[42] Burkert also mentions purification affected through the winnowing fan and sea scallions. Walter Burkert, *Greek Religion*, trans. John Raffan (Cambridge: Harvard University Press, 1985), 76.

[43] Hesiod specifically mentions washing away wickedness before crossing a river. Burkert, 76-7.

[44] Hesiod *Works and Days* 238f.

Hesiod makes particular mention of the world of matter becoming defiled by leaders who accept bribes, render unjust decisions, and generally pervert justice.[45] Justice is portrayed as a daughter who when wronged understandably must be avenged by her father.[46] After plague and war, ritual purification may be performed by a priest to purify an entire city.[47] In the *Iliad*, after battle and plague have been suffered by Agamemnon's troops as a divine price for the king's unjust behavior, ritual cleansing is then also required.[48] The solution to the problem of "sin" was not cheap grace, but penalty exacted from the offender and cleansing action to bring back to a purified state the world of matter.

Beliefs of existence in the underworld of the three-story universe varied. In Egyptian religion, death is defined as the departure of the *ka* from the body. The *ka* is the vital force for life, it is passed down from primeval gods to younger gods, and onwards from parent to child, and it is said that *Shu* is the source of all *kas.* At death the *ka* departs the body, then after a time of rituals, the *ka* reunites with the mummified body in the afterlife. The *ba* is the power of transformation in the afterlife, uniting with the *ka* to empower the person to then move about freely. The *akh* is the spirit transfigured and shining.[49] Salvation in the afterlife was at first reserved for the pharaohs who were provided for by the living with elaborate material dwellings to make life after death comfortable. Eventually the nobles were believed to live on in the underworld after death, and finally, the average person as well. Salvation for the average person was dependent upon ethics. *The Book of Going Forth by Day* includes the negative confession, listing wrongs and offenses that one must not commit in order to experience a joyful afterlife. There was also a positive confession, wherein one must confess that he or she brought forth goodness into the lives of those in need. The heart was also weighed and if not weighed down by sin, and light as a feather, the individual could achieve a happy existence in a sun-filled, bright afterlife, otherwise one would be destroyed. In the three-story universe, the sun went below the earth daily, while its brightness illuminated the realm of souls who were worthy.

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[45] Hesiod *Works and Days* 248f.

[46] Hesiod *Works and Days* 256f.

[47] Epimenides of Crete ritually purified Athens after the Cylonian pollution. Burkert, 77.

[48] Homer *Iliad* 1.313.

[49] Stevan Davies, "Soul: Ancient Near Eastern Concepts," in *The Encyclopedia of Religion.*

The underworld for the Semetic and Greek cultures was essentially dark and dreary. In Genesis, the Divine breathed breath into the body to give life (Gen. 2:7), when the breath left the body, the person was no longer among the living. In a rare biblical story of the Hebrew *Sheol,* Samuel is depicted as sleeping in the underworld. When he is woken up he is recognized as an old man wearing a cloak and cognizant enough to converse with the medium at Endor and king Saul, even to reveal the future (1 Sam. 28:15). His soul or mind is still present with the body, though sleeping. The idea of resurrection from the dead is said to be in the little apocalypse of Isaiah 24-27 and Daniel.[50] Isaiah 26, dated to the sixth century BCE figuratively envisions the rise of *rephidim*, shades from the netherworld, as the narrator looks forward to Yahweh overturning them and other mythological forces of destruction.[51] Daniel 12 envisions the dust of the earth giving up its dead who are, like Samuel, asleep and will wake to judgment and everlasting life. While Daniel 12 is a much later text, second century BCE, it repeats the concept of the dead as asleep in the ground. The Akkadian Epic of Gilgamesh describes the underworld as a dark, dusty, food-deprived place of no escape.[52] For the Greeks, shades of the deceased could live on in a weak state in the afterlife, described as dark and dreary. A ghost of the person survived death and lived on semi-conscious in the underworld, and while it had the power to continue on, it was not enough power to dwell above in the light. In Homer's *Odyssey*, Odysseus' visit to the underworld reveals the dead as ghosts or images languishing in a dreary existence, wanting food and drink.[53]

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[50] Jack Bemporad, "Soul: Jewish Concept" in *The Encyclopedia of Religion.*

[51] The rephidim are "shades from the underworld who threaten the living in Ugaritic mythology." The other mythological forces in chs. 24-27 are Chaos, Mot and Leviathan. Marvin Sweeney, *Isaiah 1-39,* Forms of the Old Testament Literature, vol. 16 (Grand Rapids: Eerdmans, 1996), 322, 341.

An important development in the concept of the eternal soul is provided in the poetry of Orpheus which dates to the mid sixth century BCE and concerns body and soul dualism.[54] There is evidence that Orphic books existed in the sixth century and "*orphikoi*" in the fifth century BCE.[55] In the Orphic myth of Zagreus, Zeus slays the Titans with his thunderbolt for consuming Dionysus, and out of the ashes makes humankind. In Greek fashion, human beings are not made of clay and a divine element such as breath or saliva, but two divine elements, a Titanic body and a Dionysian soul, rendering the human being ontologically a composite of body and soul. In Orphic poetry, the soul, like the gods, was considered eternal and transmigrated through multiple lifetimes. Such a view is also found in Pythagoreanism which will be discussed below. Pindar expounds on Orphic body/soul dualism in a fifth century BCE work, his second

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[52] "Epic of Gilgamesh," in *Ancient Near Eastern Texts*, 87.

[53] Homer *The Odyssey* 11.

[54] Burkert, *Greek Religion,* 296f.

[55] Kirk and Raven, 37-39.

Olympian Ode. In the afterlife, there are three possibilities, for the pious a shining underworld awaits free of cares, (the first possibility), for evildoers there is a dark path leading to suffering in the underworld (the second possibility). One's fate is determined by previous deeds, not unlike tenets of early Buddism. For those who can pass the test three times, with Persephone as judge, the Island of the Blessed awaits (the third possibility).[56] Orphism promotes just behavior, as does the heroic code, the divine judgment of Zeus, and in Egypt, the ethics in *The Book of Going Forth by Day*. This important concept of Orphism of body and soul dualism would be greatly developed by Greek philosophers.

Salvation, in the sense of a bright, happy afterlife in opposition to darkness and a weak ghostly existence, was also offered in the Greco-Roman Mystery Religions. Some of the Mystery Religions include those of Demeter and Kore at Eleusis, the Andian Mysteries of Messenia, the Greek Mysteries of Dionysus, the Anatolian Mysteries of the Great Mother, the Egyptian Mystery Religion of Isis and Osiris, and the Roman Mysteries of Mithras.[57] The elements of Mystery Religions include salvation and blessings in this life and the next, new birth, rituals including baptism, community meal, prayer and fasting, with miracles experienced. In one of the oldest, preceding Homer, the Mystery Religion of Demeter and Kore at Eleusis, adherents would partake in a series of initiations, in essence to assimilate to the journey of suffering of the Goddess.[58] Purity rituals, prayer, and fasting were undertaken. Once assimilated, they were said to "behold the light" of the Goddess,[59] and in the afterlife promised a blessed existence with the shining light of the goddess below.[60] Connection with the deity involves imitation of the deity's trials, at least in ritual action, and the purity rituals of fasting and bathing.

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[56] Burkert, 299.

[57] The mystery religion of Mithraism reflects the new scientific cosmology of the planets and heavenly bodies occupying spheres around the earth identified with each increasing stage of development for adherents. Marvin Meyer, ed. *The Ancient Mysteries: A Sourcebook, Sacred Texts of the Mystery Religions of the Ancient Mediterranean World* (San Francisco: Harper and Row, 1987).

[58] Burkert, 285.

The early cosmologies describe a progression from unstructured to structured existence, while the Greeks spoke of the sophisticated concepts of Chaos and Time as primeval. Nature is described as generated from Divine substance. All of nature was divine, from waterways to mountaintops and the forests between, as well as the stars, sun and moon Humans were considered the offspring of the gods in Egypt and Greece, with the divine breath supplying inspiration. In Mesopotamia, humans were said to be comprised of a mixture of clay and a divine substance or breath, while in Greek Orphism, a mixture of two divine natures, the Titanic and Dionysian. A general progression from light to dark elements is found when going from above to below.[61] Light-weight elements give rise to heavier, more structured elements. Hesiod described a de-evolution through the ages from god-like to an increase in violence, with the exception of the path of the hero emulating god-like behavior. When the world of matter becomes defiled through unjust behavior, a penalty is exacted and purification required to set the world of gods and humans back in balance to a purified state. To acquire the wisdom of the gods, prayer, as well as specialized intermediaries are employed, with some gods associated with light, specializing in truth and knowledge, giving enlightenment. In Egypt, a blessed afterlife can be achieved if one has lived ethically. In the Greco-Roman Mystery Religions, re-birth and blessings were experienced in this life and salvation in the afterlife with the shining gods was offered once one modeled the trials the deity faced and purified oneself.

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[59] Plutarch *Virtues* 10.

[60] According to Jan Bremmer, "there is no mention of the soul in the mystery religions; the initiates apparently expected to arrive in the underworld in person." "Soul: Greek and Hellenistic Concepts," in *The Encyclopedia of Religion*, 437.

[61] An exception is the sun's traverse through the underworld each night.

One theme which can be identified in the relationship between gods and humans is as teacher to student. While many will point out Zeus' license to take privileges, (and perhaps Gen 6:1-4 is a commentary on this), for the Greeks, he represents the advocacy of justice. In the model of the heroes and the initiation steps in the Mystery Religions, one models god-like behavior. There is learning; one grows and transforms one's character under the tutelage of gods and heroes. The concept of reincarnation as expressed by Orphism and Pindar (and Pythagoras to be discussed below) indicates that in life to learn justice is required. The connection between the Divine and matter in the three-story universe is first and foremost that matter is divine, filled with gods, and while there are many myths of the gods misbehaving, there does exist the concept that the gods promote enlightenment and the learning of values.

The Rise of Greek Philosophical Cosmology and the Interconnection between the Divine and Natural World

The rise of Greek natural philosophy, astronomy and mathematics in the sixth century BCE would greatly impact theological perspectives, significantly altering the cosmological model of the three-story universe. What emerges over time, is a shift away from anthropomorphic considerations to the Divine as the intelligent, energetic principle and Source of the cosmos, with the cosmos increasingly pictured in geocentric terms. In particular, the concept of the Source of matter, the *arche* as Aristotle describes it,[62] whether in monistic or pluralistic terms, would be a primary topic of analysis. The nature of creation itself, what constituted soul and matter, and how the Divine and world interacted would be greatly impacted by the new scientific cosmologies. In this section, the pre-Socratic philosophers will be reviewed from Thales to Democritus, offering a brief description of their cosmogonies and cosmologies and outlining their conceptions of the connection of the Divine to the world. These "natural philosophers" as so often referred to in contemporary literature, are literally the first "physicists." The word "nature" in Greek is physics, and in the ancient literature the early philosophers are literally referred to as "physicists."[63]

The Pre-Socratics

With Thales of Miletus (b. 620 BCE), there is said to be the beginning of Greek natural philosophy.[64] It is reported by both Proclus and Josephus that Thales had traveled to Egypt and Babylon, studied Geometry from the Egyptians and the astronomical records of the Babylonians and brought this information to Greece.[65] Along with Thales' works on astronomy, he constructed a cosmological model according to which the disc of the earth floated on water, and water was the primary source of all, the *arche,* the beginning, according to Aristotle.[66] Plutarch and Simplicius conjectured that such a choice stemmed from the earlier mythological cosmologies, such as that of Greek, Egyptian, and Babylonian cosmologies in which water had a genealogical function.[67] Thales was reported to have investigated the substance of matter, and possibly based on his research on magnets and amber, concluded that the soul is a "motive force" permeating and enlivening the entire cosmos.[68] Aristotle, Hippias, Plato, and Aetius indicate that Thales described a world en-souled.[69]

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[62] Aristotle *The Metaphysics* 1.3.1.

[63] Aristotle himself refers to the natural philosophers as physicists in his *The Physics*, while Aristotle's student, Theophrastus wrote sixteen books on the *Opinions of the Physicists*, the early natural philosophers. Aristotle *The Physics* 1.2.17; Kirk and Raven, 3.

[64] Aristotle *Metaphysics* 1.3.1; Hippolytus *Refutation of All Heresies* 1.1. It is said of Anaximander that he was the first Greek to have written a book on nature. Kirk and Raven, 102.

[65] Proclus *A Commentary on the First Book of Euclid's Elements* 62.12-65; Josephus *Contra Apionem* 1.2.

> "Thales said that the mind of the world is god, and that the sum of things is besouled, and full of *daimons*; right through the elemental moisture there penetrates a divine power that moves it."[70]

While Aetius takes Thales a little further than Hippias, Plato, and Aristotle, with his specific reference to the "mind of the world is god," an *empowered divine essence*, be it soul, gods, or "divine power" is described by these Greek philosophers as fundamental to Thales concept of matter itself. For Thales, the idea of divine immanence within Nature flows logically from the earlier cosmogonies in which gods, humans, and all that is are generated from Divine water, as well as from his observations of a power within matter itself, including what Newtonian Physics would later describe as inanimate matter. For the early "physicist" Thales, matter was enlivened, en-souled, and motive.[71]

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[66] Aristotle *Metaphysics* 1.3.

[67] Kirk and Raven, 89.

[68] Aristotle *De Anima* I.2; Kirk and Raven, 96.

[69] "Aristotle and Hippias say that he (Thales) gave a share of soul even to inanimate objects, using magnesian stone and amber as indications." Diogenes Laertius *Lives and Opinions of Eminent Philosophers* 1.24. "And some say it (the soul) is intermingled in the universe, for which reason, perhaps, Thales also thought that all things are full of gods." Aristotle *De Anima* 1.5. "Is there anyone who will accept this and maintain that all things are not full of gods." Plato *Laws* 10.899b. This is "a probably conscious but unattributed quotation" of Thales by Plato according to Kirk and Raven, 94.

[70] Aetius 1.7.11 cited in Kirk and Raven, 95.

Anaximander (610-546 BCE), a younger contemporary of Thales in Miletus, was said to have been influenced by Babylonian astronomy and was credited by early sources as introducing the gnomon into Greece (an hour-indicator), and to have "discovered" the equinox and solstices. He wrote *On Nature, the Circuit of the Earth, On the fixed Stars, A Celestial Globe*, and other works, according to Hesychius.[72] In his cosmogony, he proposed that the origin of all things was not water as described by Thales, for it was too heavy, but instead he envisioned the Source of all matter as the Indefinite, the *apeiron.*[73] According to Aristotle in *The Physics*, Anaximander's *apeiron* is Divine.[74] The Indefinite is envisioned as the one generating principle for all things.[75] The *apeiron* is not yet air, or any such thing, it is Indefinite substance in eternal motion, sounding similar to Hesiod's concept of *chaos*. How the cosmos forms is that a germ separates off, becoming a definite thing from the Indefinite. First, the opposites Warm and Cold separate off, and from these the lightest of elements forms, air-mist. From this arose Earth then air.[76] A germ of fire shoots up from the earth and air, surrounds it and this sphere separates into several rings becoming the sun, moon, and stars.[77] Based on astronomical data, he constructed a cosmological model with the earth at the center of the rings of the heavenly bodies, the rings described as fire surrounded by air having the shape of chariot wheels and at inclined planes.[78] An aperture in each ring allowed the fire light to show through as the ring circled the earth. The universe as a whole is described as a celestial globe, while the earth (having a column-like shape) is held in place in the center being equidistance from the celestial bodies.[79] He describes a geocentric universe with the celestial bodies of sun, moon, and planets circling around the earth.[80] Anaximander's cosmological view would be foundational for the western concept of the geocentric universe which was not overturned until Copernicus.[81]

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[71] Thales of Miletus was "traditionally the earliest Greek physicist, or enquirer into the nature of things as a whole." Kirk and Raven, 3, 74. .

[72] Kirk and Raven, 99, 101.

[73] Preserved by Simplicius, Hippolytus and Pseudo-Plutarch, cited in Kirk and Raven, 104-5.

[74] Aristotle *The Physics* 3.4.15.

[75] Hippolytus *Refutation of Heresies* 1.5.

[76] From Theophrastus' description as discussed by Kirk and Raven, 133.

Surrounding the earth and planetary system is the divine *apeiron.* Things arise from the *apeiron,* as well as from one another once things form, and eventually will return, "for the things give satisfaction and reparation to one another for their injustice, as is appointed according to the ordering of time."[82] He describes the earth as first fluid and with creatures, and then as it dries up, land creatures emerge.[83] The universe he describes is cyclical, and he allows that there may be other worlds.[84] According to Aristotle in *The Physics* describing Anaximander's concept, the eternal Indefinite is the beginning of all things, surrounds all things and steers all things; it is Divine, immortal, indestructible.[85] The connection between the Divine and world for Anaximander is that this Divine non-anthropomorphic Indefinite Source is immanent in nature; it generates the all, surrounds it, and all will return.

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[77] Eduard Zeller, *Outlines of the History of Greek Philosophy,* trans. L.R. Palmer, 13th ed. (London: Routledge and Kegan Paul, 1955), 29.

[78] Kirk and Raven, 134.

[79] Diogenes Laertius *The Lives and Opinions of Eminent Philosophers* 2. 1-2; Kirk and Raven, 99.

[80] Kirk and Raven, 133-37.

[81] Zeller, *Outlines,* 29.

[82] Simplicius *Physics* 24.13.

[83] Zeller, *Outlines,* 29.

For Anaximander's student Anaximenes (d. 528) also from Miletus, "air" is the Source of all things; but this air is also of a divine nature, according to Aetius.[86] Air is associated with the soul, which previously had been expressed as breath of life in early Greek and Hebrew literature.[87] Anaximenes provides a process for how air becomes matter. Air becomes the stuff of the world through the processes of rarefication and condensation.[88] Air rarefies to become fire. Air condenses to become wind, it condenses further to become clouds, further still to become water, and water condenses to become earth, and everything else comes from these. Evaporations from earth become the fiery bodies of the celestial. Even the gods arise from the infinite air.[89] Anaximenes describes everything coming from One Source, divine air, and provides the natural processes to describe his theory of change. The divine nature as air is within humanity, and within all of nature as its ontological essence. For the physicist Anaximenes as well, matter is fundamentally divine in nature.[90]

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[84] In Simplicius' quotation from Anaximander he states that from the apeiron nature "come into being all the heavens and the worlds in them." Simplicius *Physics* 24.13. Interestingly, in Hippolytus' quotation, he leaves out the plural form of "worlds." Hippolytus *Refutation* 1.6.1-2. There is debate as to whether it is one world in succession or multiple worlds existing at the same time. Kirk and Raven, 121-2.

[85] Aristotle *The Physics* 3.4.10-15.

[86] Aetius 1,7,13, Augustinus C.D. 8.2, and Hippolytus *Refutation of All Heresies* 1.6 cited in Kirk and Raven., 144.

[87] Diogenes Laertius *The Lives and Opinions of Eminent Philosophers* 2.2.

[88] Hippolytus *Refutation of All Heresies* 1.6; and Simplicius *Physics* 24.26 cited in Kirk and Raven, 144.

[89] Hippolytus *Refutation* 1.6.

Xenophanes of Colophon (ca. 570- ca. 475 BCE) was born in Ionia, expelled for his views, and moved to Sicily where he made his living as a poet, singer, songwriter and sage, on among other topics, the nature of the Divine.[91] His crime of impiety was his attack on the Homeric depiction of the gods. He promoted the idea that the depiction of the anthropomorphic gods should be abandoned. Reasoning that people of other races and lands envision the gods looking like themselves, he poetically stated that if horses could paint they would paint the gods like horses.[92] Mortals have made the gods in their own image. Such images are subjective, rather there is "One god, greatest among gods and men, in no way similar to mortals either in body or in thought."[93] The One does not flitter about among mortals, for this, according to Xenophanes would be unfitting. He envisions the One as not moving at all, but rather the source of motion in the world is brought about through the divine Mind.[94] Whether the One was outside or within the world was not elaborated by Xenophanes, and so the relationship between the Divine and world can not be described. Heraclitus will follow through specifically with the idea of location of the Divine One.

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[90] Kirk and Raven, 150.

[91] Kirk and Raven, 164.

[92] "But mortals consider that the gods are born, and that they have clothes and speech and bodies like their own." Fr. 14, Clement, *Strom.* V, 109, 2 cited in Kirk and Raven, 168. "The Ethiopians say that their gods are snub-nosed and black, the Thracians that theirs have light blue eyes and red hair." Fr. 16, Clement. *Strom.* 7. 22. 1. "But if cattle and horses or lions had hands, or were able to draw with their hands and do the works that men can do, horses would draw the forms of the gods like horses, and cattle like cattle, and they would make their bodies such as they each had themselves." Fr. 15, Clement Strom. 5.109e cited in Kirk and Raven, 168-9.

[93] Fr. 23, Clement *Strom.* 5.109.1 cited in Kirk and Raven, 169.

[94] "Always he remains in the same place, moving not at all; nor is it fitting for him to go to different places at different times, but without toil, he shakes all things by the thought of his mind." Fr. 25, 26, Simplicius *Physics* 23.11; 23.20 cited in Kirk and Raven, 169. Regarding location of the One, Xenophanes did not elaborate as to whether the One was within or outside of the world. According to Kirk and Raven, Aristotle's view is misleading, for "if Xenophanes had even implied that the god lay outside the world, then

For Heraclitus of Ephesus (b. 535), the One as Mind is located within creation and described as fiery reason. Regarding the *arche*, the one fundamental Source of the many was not water, or air, but fire, bringing forth the things of creation, and giving shape and reason to matter. He calls this internal principle the *Logos*, meaning rational principle.[95] According to Hippolytus, this fiery *Logos*/reason is Deity.[96] There is a world of change but it is not chaotic, there is a deeper continuity of oneness that shapes and harmonizes and unifies the world of constant change. All things are in process, in a world not created by gods or mortals, in a flow of this everlasting fire of divine *Logos*/reason.[97] The Divine Reason is in day, but also night, in summer and winter, in peace and war, and it informs the laws of government.[98] For Heraclitus, we become wise by drawing into the divine reason, this *Logos* throughout creation.[99]

To perceive the divine reason in Nature is the first way to connect with the Divine. Secondly, for Heraclitus, the soul is defined as pervading all creation and consists of the same element as the stars, the lightest of all material substances, a

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Aristotle or his elaborators could have seized upon this as an anticipation of the Prime Mover." Kirk and Raven, 172.

[95] Hippolytus *Refutation of All Heresies* 9.4.

[96] Frag. 67; Hippolytus *Refutation of All Heresies* 1.4.

[97] Plato *Cratylus* 402a; Frag. 30; Clement *Strom*. 5.104.1 cited in Kirk and Raven, 197-99.

[98] Hippolytus *Refutation of All Heresies* 9.4,5.

[99] Sextus *Adv. Math* 7. 29 cited in Kirk and Raven.

vaporous matter. The human soul draws in the *Logos* through breathing.[100] The divine reason may also be encountered in dreams, as the dreamer is surrounded by the *Logos* of the environment.[101] Connection to the divine is achieved through the reason evidenced in creation, that is, perceiving it, through breathing in the air/soul, and through what we would call the unconscious, through dreaming. The connection of the Divine through matter is internalized, taken in through the surrounding divine reason. Critias would follow up on Heraclitus idea of the soul and proclaim perception as the most characteristic attribute of the soul.[102]

For Empedocles of Acragas (492-432 BCE), a contemporary of Anaxagoras, instead of the many coming from one original element such as water in Thales' cosmology, air for Anaximenes, fire for Heraclitus, Empedocles regards the whole world as One with four eternal elements water, air, fire, and earth combining and re-combing to form the things of matter.[103] Though he is not the first to come up with the four elements as foundational, Aristotle quotes him often, follows his lead, and Aristotle's view would become dominant through the middle ages. For Empedocles however, though certainly not for Aristotle, these four elements are divine for he equates the four with Zeus, Hera, Aidoneus, and Nestis.[104] Simplicius states however, that for Empedocles "his real first principles which impart motion to these are Love and Strife" which again are represented by deities, Aphrodite and Kupris.[105] From these six

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[100] Sextus *Adv. Math* 7.129 cited in Kirk and Raven, 207.

[101] Sextus *Adv. Math* 7.129 cited in Kirk and Raven, 207.

[102] Aristotle states that Critias' view of the soul was blood, which Aristotle dismisses as less than adequate. Aristotle *On the Soul* 1.2.

[103] Kirk and Raven, 324.

[104] Fr. 6, Aetius 1.3.20 cited in Kirk and Raven, 323.

> "spring all that were and are and shall be, trees and men and women, beasts and birds and water-bred fish, and the long-lived gods too, most mighty in their prerogative. For there are those things alone, and running through one another they assume many a shape: so much change does mixing effect."[106]

For Empedocles, all things are compounds of "divine things mingled" together.[107]

The changes are cyclical in nature and produce a buildup of forms, described as evolutionary and mythical in character as ill-shaped forms are re-mixed to produce the viable forms of nature. Organisms arise out of the compounds, which are expressed as both physical and divine, producing human beings with souls. The cosmic cycle of change covers 30,000 years, with one stage being pure Love, and the polar opposite stage being Strife. The world fluctuates from a state of Love and harmony to a state of separation and strife, and back again. The many grow into the One, and the One changes into the many.[108] The connection for Empedocles between the Divine and the world is that the world is comprised of divine substance, in its separateness and in its harmony.

The individual soul also undergoes a cyclical cycle as described by Empedocles in which it begins in Love and harmony. A fall is described as the rise of bloodshed in general, and the soul begins its journey of transmigration.[109] The soul "learns to love" as it traverses through the stages ridden with Strife, and finally after thousands of years may experience purification and be able to return to its home of bliss.[110] Learning in general occurs through sense perception. In Empedocles' theory of sense perception, all things give off effluences and when these emanations are of the right size they can fit into the pores of the sense organs. The sensory information leads to perception,[111] while wisdom leads to the souls return.

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[105] Simplicius *Physics* 25.21 cited in Kirk and Raven, 329.

[106] Fr. 21,1.9 Simplicius *Physics* 159, 21 cited in Kirk and Raven, 328.

[107] Fr. 59; Simplicius *De Caelo* 587.20 cited in Kirk and Raven, 337.

[108] Fr. 17, 1-13; Simplicius *Physics* 158. 1 cited in Kirk and Raven, 326-27.

[109] Kirk and Raven, 350-51.

In Empedocles' cosmogony as described by Aetius, the One is the whole world as a unity, with first *aither* separating off the Sphere and flowing around in a circle. Next fire is separated off, then earth and water separates from the earth. The heavens form from the *aither*, the sun from fire, while terrestrial things are compressed from the other elements.[112] From Plutarch's understanding of Empedocles: the sun revolves around the earth beneath the circle of air, yet some fire reaches above forming the stars. The stars attach to the periphery of the upper ring of frozen air.[113] The reason that the earth stays at rest in the center is, Empedocles reasoned, due to the motion of the heavenly rings which are spinning so fast they hold the earth in place. Empedocles' concept of four eternal elements, earth, air, water, and fire would be foundational for Aristotle's conception of matter, while Aristotle will reject the individual elements as divine.

Anaxagoras of Clazomenae (ca. 500 to 428 BCE) taught in Athens and was sentenced to death for impiety, for his teaching that the sun was fiery metal, rather than a god of light.[114] Anaxagoras went into exile for promoting such a controversial opinion (though may have later been pardoned).[115] His cosmology builds on and is a reaction to Anaximander and Empedocles.[116] In the beginning all things are eternal[117] and together in a swirling vortex, and then, due to the motion, separate off in a series of opposites to form objects.[118] From the primordial substance comes wet and dry, hot and cold, bright and dark, earth and "an unlimited number of seeds."[119] The opposites, such as Light and Dark are together in the beginning in a mixture in which nothing is identifiable and "all things are in everything."[120] Air and *aither*, the lightest of the elements are separated off first. As they separate off, water is being separated out of the clouds formed, and earth is compounded out of water.[121] The All begins as an unidentifiable mass, in which things form by separating off from the mass, separation caused through motion.

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[110] Frag. 115; Hippolytus *Refutation of All Heresies* 7.29 cited in Kirk and Raven, 351-2.

[111] Theophrastus *De Sensu* 7; The blood around the heart are thoughts. Theophrastus *De Sensu* 9 cited in Kirk and Raven, 343.

[112] Aetius 2.6.3 cited in Kirk and Raven, 332.

[113] Aetius 2.13.11 cited in Kirk and Raven, 333.

The Initiator of the whole process, the motion and separation, is not the emotive forces of Love and Strife as Empedocles maintained, but according to Anaxagoras, *Nous*, Mind.[122] According to Simplicius, Mind initiates the movement, causing things to form; the whole Rotation of the world of planetary bodies, sun and moon is set in order by

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[114] Diogenes Laertius *Lives of Eminent Philosophers* 2.7 cited in Kirk and Raven, 362.

[115] Kirk and Raven, 364.

[116] Anaxagoras theory is a reaction to "Parmenides and the earlier pluralists." "Empedocles had not gone far enough...He had not succeeded, according to Anaxagoras, in eliminating the coming-into being of something new." Kirk and Raven, 368, 380.

[117] Aristotle *Metaphysics* 1.3.

[118] Frag. 6; Frag. 9 cited in Kirk and Raven, 373-6.

[119] Frag. 4; Frag. 12 cited in Kirk and Raven, 372-7.

[120] Frag. 6; Simplicius *Physics* 164.26 cited in Kirk and Raven, 375.

[121] Frag. 16 cited in Kirk and Raven, 375.

[122] Frag. 13 cited in Kirk and Raven, 373.

Mind.[123] Mind is described as "the finest of all substances and purest of all things," "a corporeal entity," striving to be an incorporeal conception, according to Kirk and Raven.[124] While Mind is everywhere guiding and "everywhere present," it is "not part of the mixture."[125]

> "But Mind, which ever is, is assuredly even now where everything else is too, in the surrounding mass and in the things that have been either aggregated or separated."[126]
>
> "All other things have a portion of everything, but Mind is infinite and self-ruled, and is mixed with nothing but is all alone by itself."[127]

Mind is "with" things wherever they may be, but remains "unmixed" with them.[128] Matter contains a portion of everything else, "both the opposites and the natural substances."[129] With living beings including plants what animates them is mind, though in varying degrees. As Hippolytus summarizes, for Anaxagoras, Mind and matter are together the originating principles;[130] Mind is the efficient cause; matter that which was being formed.[131] There cannot be the Matter of the world without the forming influence of Mind.

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[123] Frag. 12; Simplicius *Physics* 164.24; 156.13 cited in Kirk and Raven, 372.

[124] Kirk and Raven, 374.

[125] Frag. 11; Frag. 12; Frag 14 cited in Kirk and Raven, 373-4.

[126] Frag. 14 cited in Kirk and Raven, 374.

[127] Frag. 12; Simplicius *Physics* 164, 24; 156,13 cited in Kirk and Raven, 372.

[128] Kirk and Raven, 374.

[129] Kirk and Raven, 387.

[130] Hippolytus *Refutation* 1.7.

[131] Hippolytus *Refutation* 1.7.

In Anaxagoras' theory of sense perception "every sensory act is accompanied by some sort of irritation" such as loud noises hurt the ears, bright light irritates the eyes, etc.[132] Sense organs meet in the brain.[133] We obtain nourishment, for body and mind in the things we take in, "everything derives its growth from these things."[134] Within living creatures, there is mind, for some creatures more, for others, less, for "in everything there is a portion of everything except Mind; and there are some things in which there is Mind as well."[135] In Anaxagoras' philosophy the closest thing to the Divine is equated with Eternal Mind, separate from yet guiding all of creation, while senses and nutrients provide growth for the human mind. The connection, then for Anaxagoras, specifically between the Divine and world of matter, is that the Divine Mind, distinct from creation, yet ever present guides matter continually into existence. As Kirk and Raven state, with Anaxagoras begins the dualistic philosophical divide between Mind and matter, while it should be noted that for Anaxagoras, Mind is corporeal.[136] Anaxagoras' system would be modified by his student Archelaus of Athens. Archelaus describes a mixture with Mind, and that "Mind is inborn in all animals alike; for each of the animals, as well as human beings, makes use of Mind, though some more rapidly than others.[137] Archelaus would become the teacher of Socrates.

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[132] Theophrastus *de sensu* 27ff, cited in Kirk and Raven, 394.

[133] Zeller, *Outlines*, 63.

[134] Aetius, I, 3, 5 cited in Kirk and Raven, 385.

[135] Frag. 11; Simplicius *Physics* 164.23 cited in Kirk and Raven, 376.

[136] Kirk and Raven, 374-75.

[137] Diogenes Laertius *Lives of Eminent Philosophers* 2. 6; Hippolytus *Refutation* 1. 9. 1 cited in Kirk and Raven, 395-97.

The pre-Socratic philosophers, with the exception of Anaxagoras describe foundational matter as divine. There is also witnessed with the early Greek cosmologists a movement to a geocentric cosmology, from that of the three-story universe. Thales' first principle posited as water was regarded as divine, as was Anaximenes' conception of air, and Heraclitus' conception of fire. The four foundational elements in Empedocles' cosmology were also considered divine. For these pre-Socratics, the many things of the world of matter are generated, not by the gods of the earlier cosmologies, but generated by the divine elements. With Heraclitus, matter is described as fundamentally light (as opposed to dark) and intelligent in its essence. Theories of knowledge describe the receiving of information from the environment in terms of physical emanations from objects being literally taken into the body through the body's sense organs. With Empedocles there is continued the earlier idea that we are here learning values, specifically to grow in love.

A very different approach to how the world is generated was provided by the Greek mathematician Pythagoras in the sixth century BCE. Instead of an element or elements generating the many, Pythagoras, emphasizing the Order of the world, envisioned numbers as generative. He was not only a mathematician, but also an astronomer, medical researcher, philosopher and leader of a religious movement. Because of the tyranny of Polycrates in 532 BCE, he moved from his home on the Island of Samos with his followers to Croton, Italy where he founded a secret religious organization.[138] While it is difficult to discern the teachings of Pythagoras from his later followers due to the secrecy of the society, [139] there are generally three periods ascribed to Pythagoreanism: the life of Pythagoras to that of Parmenides constitutes the first two periods from the late sixth century to the middle of the fifth century BCE, and then at the end of the fifth to early fourth century BCE begins the third period under Philolaus.[140] The two primary teachings of the Pythagoreans are his cosmology based on numerical theory, according to which numbers comprise the essence of reality, and transmigration of souls, which is first encountered historically in Orphism according to Plato.[141] According to Diogenes Laertius and Hippolytus, for Pythagoreans the Source of all is the Monad, a unity, and Deity.[142] The fiery center of the Monad[143] (the One) draws in the dyad (Two), the undefined, the Unlimited, *apeiron*. From the connection of the Monad with the dyad comes forth numbers, from numbers, points, from points, lines, from lines plane figures, from plane figures, solid figures, from solid figures sensible bodies.[144] Sensible bodies are comprised of fire, water, earth, and air from the original numerical foundation. These elements interchange and turn into one another. They combine to produce a "*Cosmos*" which is animate, intelligent, and spherical, with the word *cosmos* itself meaning order, and Pythagoras the first to use *cosmos* in this way according to Aetius.[145]

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[138] According to Apollodorus, he lived in Samos during the reign of Polycrates. Kirk and Raven, 217-19.

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[139] Kirk and Raven, 220.

[140] Ibid.; Zeller, *Outlines*, 35.

[141] Plato *Laws* 6.782c.

[142] Hippolytus *Refutation of All Heresies* 1.2.

[143] Simplicius *De Caelo* 511. 26 cited in Kirk and Raven, 259.

[144] "Unit-points are the basis of physical matter; they were regarded as a primitive form of atom." Kirk and Raven, 252-3, 247.

[145] Diogenes Laertius *Lives of Eminent Philosophes;* Aetius 2. 1.1 cited in Kirk and Raven, 229.

Pythagoras was probably the first to adduce that the earth was a sphere, rather than a disc, with a numeric periodic revolution around a fixed point.[146] According to Diogenes Laertius, the earth is at the center of the cosmos for the Pythagoreans, but from Aristotle's *On the Heavens,* the Pythagoreans say the earth moves around a center.[147] And Aristotle adds that Pythagoras is different than other philosophers of the time who say that the earth is at the center of the cosmos.[148] As Aristotle relates, for the Pythagoreans what was at the center of the Universe was Fire, referred to by some as "the Guard-house of Zeus."[149] That the planets revolve around the center is also considered to be an early Pythagorean doctrine.

Pythagoras discovered that the "pitch of musical tones depends on the length of the strings on musical instruments," and more specifically that the primary musical intervals are simple numerical ratios of the first four integers.[150] His discovery had a profound affect upon the development of music, as well as his theory of matter and cosmology.[151] The intervals from music suggested that the planets travel around the center in intervals. Relating this to the orbits of the planets, he reasoned that because bodies in motion make noise, the planets, being in motion and moving along intervals, would make a harmonious sound, "the harmony of the spheres."[152] Along with his mathematical discoveries, such numerical relationships indicated the orderly harmonies and mathematical essence of the *Cosmos,* the Order.

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[146] According to Theophrastus, the Pythagorean Parmenides was the first to speak of the spherical earth, and the concept is traditionally accredited to his teacher Pythagoras. Zeller, *Outlines*, 36.

[147] Aristotle *On the Heavens* 2.13. There is postulated a counter-earth, both circling around a fiery center. Simplicius *De Caelo*, 511. 26. To the seven heavenly bodies plus the sphere of fixed stars and the earth the Pythagoreans add a counter-earth to come up with the "perfect" number 10. Aristotle *The Metaphysics* 1.5.

[148] Aristotle *On the Heavens* 2.13. "So Aristotle expounded the Pythagoreans' views, but the more genuine members of the school regard fire at the center as the creative force which gives life to the whole earth from the center and warms its cold parts; and so some call it the 'Tower of Zeus' as Aristotle records in On the Pthagoreans, others the 'Guard House of Zeus' as he says here, others again the 'Throne of Zeus' as other authorities tell us. Simplicius *De Caelo* 511.26, cited in Kirk and Raven, 259-260.

[149] Aristotle *On the Heavens* 2.13.

[150] Zeller, *Outlines*, 35. An octave is 2:1, a fifth is 3:2, a fourth is 4:3, with the first four integers adding up to 10, mystically considered the perfect number. Kirk and Raven, 229-30.

[151] Kirk and Raven, 259.

The soul, mathematical in essence,[153] and associated by some Pythagoreans with the motes in the air, as mobile minute atom-like units, is ontologically connected with the Monad as an extension of mathematical essence. Purification to achieve harmony in the soul enhanced the connection. The soul was eternal for Pythagoras and continued on after death, transmigrating into other forms, including animal life. [154] Pythagoras was known to be socially aware, he included women in his society and promoted humane treatment of slaves, and was a vegetarian based on his belief in reincarnation.[155] **To purify the soul one studied mathematics and the numerical relationships within the natural order.** This was the connection to the Divine, contemplation of the order in the universe. Understanding this order put one in tune with the Creative Source of the universe. Music, with its mathematical essence, was also understood to be c*athartic* in nature, able to purify and strengthen the soul.[156] In this way, one purified the soul to end the cycle of reincarnation. Pythagoras thus defines the essence of matter as intelligent and motive stemming from One intelligent divine source, and the soul as finely particled matter also intelligent and motive in essence and able to return to its source. The connection to the Divine is achieved through studying mathematics, the numerical relationships within nature and listening to music, mathematical in its essence.

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[152] Kirk and Raven, 230, 259.

[153] Aristotle *The Metaphysics* 1.5.2.

[154] Attested in Diogenes Laertius and Herodotus as cited in Kirk and Raven, 222-3.

[155] Porphyrius *Vita Pythagorae* 19 cited in Kirk and Raven, 221-3.

[156] Kirk and Raven, 229.

Leucippus of Miletus (5th c. BCE), possibly a student of Zeno's according to Diogenes Laertius,[157] analyses the *arche* in terms of a theory of atoms and the void. Atoms were described as the smallest elements conceivable, minute, invisible, indivisible particles moving in space.[158] The void was the space between atoms, allowing room to move. The movements of these invisible floating atoms, and their shape, order, and position, caused them to combine, giving rise to the things of the material world. These atoms fall from above. As Hippolytus explains Leucippus' view, generation and change are eternal.[159] If the movement forms a vortex, it brings into being a universe. Though he is called a Materialist, his view is not the Materialism that arose centuries later, for he can see meaning and purpose to the movement, saying "Naught happens for nothing, but all things from reason (*logos*) and necessity."

The soul for Leucippus and his student Democritus (460-370 BCE) is comprised of spherical atoms consisting of Fire.[160] According to Aristotle, Democritus proposed atoms of fire for the soul because it was the subtlest of material, the closest to incorporeality.[161] The soul was considered to be comprised of finely particled matter which was round to give it perfect mobility, able to permeate all coarser matter.[162] Democritus carried over Leucippus' ideas and put forth a theory of perception, according to which, sense objects emanate an image of the object.[163] This emanation is comprised of fine atoms which are taken in by the sense organs.[164] The mind receives a copy of the image. From sensation, *aesthesis,* comes thoughts, *noesis.*[165] A truer perception, Democritus said, came from inquiry through *logos*, reason.[166] He proposed a theory to explain the gods. The deities were a combination of one's inability to understand what is seen and partly impressions from certain *eidola* or images who inhabit the air.[167] These gods were comprised of fine atoms, and communicated directly or through dreams or divination. The soul, maintained through inhalation of air, did not survive death, for Democritus. The "materialists" add to the definition of soul by addressing its composition in terms of energy particles. These soul "atoms" are not miniscule, hard billiard ball-like bodies as the Epicureans postulated, they have a fiery quality.[168] How *matter interacts with soul* is through an emanation of particles which are taken in by the sense organs of the body.

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[157] Kirk and Raven, 401-3.

[158] Philip Wheelwright, *The Presocratics* (New York: Odyssey, 1966). For Kirk and Raven, "the void is the gap between the atoms," 408.

[159] Hippolytus *Refutation of All Heresies* 2.10.

[160] Kirk and Raven, 401-16.

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[161] Aristotle *On the Soul* 1.2.

[162] Aristotle *On the Soul* 1.2.

[163] Kirk and Raven, 401-16.

[164] Ibid.

[165] Ibid.

[166] Ibid.

[167] Ibid.

[168] Epicurus' school considered the atoms hard and impenetrable, not so the school of Leucippus. Kirk and Raven, 408.

Summary for Pre-Socratics

In the cosmologies developed from 6th century BCE Greece, the world of matter, gods and humans was described as being generated by One Divine Source, while models of the universe were increasingly constructed in geocentric terms. This One Divine Source was described as water by Thales, air by Aniximenes, fire by Heraclitus, with the exception of Empedocles' cosmology who regarded the four divine elements of earth, air, water and fire as foundational. For Anaximander, the origin of all things was even prior to any element, it was the unlimited, the divine *apeiron*, reflecting the earlier concept of chaos, and from this source came the world of matter.[169] Pythagoras defined the Source and beginning of the Universe as a fiery, mathematical center, and the world of matter arises as the Unlimited comes in contact with the Source producing an ordered Cosmos. In these cosmologies the One Source as a divine element generated all of matter, with matter itself generative of further matter, divine and energetic in its essence. Heraclitus and Pythagoras both emphasized divine matter as intelligent in essence, with the Greek term *Logos* employed by Heraclitus to indicate the rational principle within matter itself.

The soul was comprised of a light-weight element, either air, according to Anaximenes or fire, according to Heraclitus, the same element as the stars. Heraclitus' view of the soul as comprised of fire would be taken over by Democritus. Democritus further defined the shape of soul atoms as round, giving the soul mobility. Pythagoras described the soul as mathematical in essence with purification of the soul to be brought about through contemplation of the orderly universe. The soul as eternal, motive, and intelligent was thought to be reincarnated as expressed in Orphic literature, by Pindar, Empedocles, and Pythagoras.

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[169] Preserved by Simplicius, Hippolytus and Pseudo-Plutarch, cited in Kirk and Raven, 104-5.

Early theories of knowledge explain how we relate to matter and the Divine. For Anaxagoras, "every sensory act is accompanied by some sort of irritation" such as loud noises hurt the ears, bright light irritates the eyes, etc.[170] For Heraclitus, the divine *Logos* pervades creation, and we become wise by drawing into it. The divine reason may also be encountered in sleep. For Critias, perception is the most characteristic attribute of the soul.[171] For Empedocles, the sense organs literally take in matter which must be of suitable size to be taken in, and this information leads to knowledge and the person may consequently grow in wisdom, enhancing the soul. For Pythagoras, who posited Numbers as foundational for matter, contemplating mathematics and the orderly universe strengthened the soul, and formed the connection between the Divine and the individual. For Democritus, sense objects emanate an image of the object.[172] This emanation is comprised of fine fiery atoms which are taken in by the sense organs.[173] The mind receives a copy of the image, while the soul is also comprised of fiery atoms. For the above physicists the divine is immanent within nature, there is no gap envisioned between the Divine and the world, while senses inform the mind, literally taking in divine matter.

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[170] Anaxagoras on sense perception, cited in Kirk and Raven. 27.

[171] Aristotle states that Critias' view of the soul was blood, which Aristotle dismisses as noted above. Aristotle *On the Soul* 1.2.

[172] Aristotle *On the Soul* 1.2.

[173] Aristotle *On the Soul* 1.2.

In opposition to the monistic cosmologies of the pre-Socratics, is the view of Anaxagoras, who offered a dualistic conception of the Cosmos, positing the ontological divide between Mind and Matter. Mind is the efficient cause; matter that which was being formed. Mind is everywhere guiding though not in the mixture. Also in opposition to the view of matter as fundamentally divine, was that of the materialists. Sounding somewhat similar to modern day field theories, Leucippus and Democritus put forth a theory of atoms and the void, according to which minute, invisible, atoms, moving in space, combine to form objects of matter. While Plato and the Stoics would carry forward many of the concepts of the pre-Socratics such as matter as intelligent and ensouled, the dualism of mind and matter in Anaxagoras would be developed further by Plato and Aristotle to become the dominant view, while the view of the atomists would be developed further in Newtonian physics.

Plato, Aristotle, and the Stoics

Plato (428-348 BCE), a student of Socrates (470-399 BCE) develops further the ideas of those who came before, including the concepts of chaos, divine matter, the mathematical essence of matter from Pythagoras, as well as fire as primary from Heraclitus, the dualism of Mind and matter put forth by Anaxagoras, and the eternal soul capable of reincarnation from Orphism and Pythagoras. While for the Pre-Socratics there was generally one originative Source, or two with Anaxagoras, for Plato there are three originating principles. According to Hippolytus, for Plato there is the three: god (that is, the *demiurge*), matter, and Ideas as originative of all that is.[174] Whereas with previous philosophers, the One Source was comprised of a material substance such as air or fire, for Plato there is the realm of Ideas, immaterial, eternal, indivisible, and unchanging.[175] Whereas with Anaxagoras the divide between Mind and matter begins, with Plato the divide between Immaterial and material begins.

Regarding the world of matter, in Plato's *Philebus* Socrates asks rhetorically, "Where can a human body have received its soul if the body of the universe does not possess a soul?"[176] This view of the World Soul is then made more specific in *Timaeus* and *The Laws* Book 10. In *Timaeus*, the character Timaeus, an astronomer, relates his opinion of the origin of the Cosmos up through the production of humankind and makes more specific Socrates' view in *Philebus*.[177] To relate how the Cosmos came into existence Timaeus offers an analogy of god who like an artisan creates an image based on a image, but in this case the image is a non-material eternal Form.[178] The model used by the Creator of the Cosmos (in 29a *demiurge*, in 29e *o theos,* meaning god, the *demiurge*), Timeaus conjectures, is the eternal world of Forms, a Living Creature, *zoeon*.[179] "He desired that all should be, so far as possible, like unto himself."[180] The Cosmos is created as "a living creature" with reason in soul and soul in body.[181] The soul is based on mathematic and harmonious patterns (Immaterial Ideas) always in motion and corresponding to the notes of musical scales.[182] The body of the Cosmos is at once said to be order out of chaos and constructed in the Receptacle, likened to a Mother.[183]

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[174] Hippolytus *Refutation of All Heresies* 1.3.

[175] Plato *Timaeus,* 34b, 35a.

[176] Plato *Philebus* 30a.

[177] Plato *Timaeus* 27a, 90b.

[178] Plato *Timaeus* 28a.

[179] Plato *Timaeus* 29e.

[180] Plato *Timaeus* 29e.

In "the Receptacle of all Becoming" matter is in a state of circling flux.[184] Matter at its most basic is earth, air, water, and fire[185] however, fire is regarded as the most basic element,[186] then air, next water, and fourth, earth.[187] The elements are aggregates of the other elements. For example, water equals one unit of fire and two units of air.[188] All elements come from one element, the most basic fire. Inside the Receptacle aggregates build up to form compounds being compressed through the circular motion within the Receptacle.[189] Three-dimensional depth and width is achieved by what is regarded as the most basic Form, the triangle. [190] Fire itself is comprised of triangles, which combine together to form fire's most basic shape, the pyramid.[191] Visible elements emerge due to being impressed upon with an eternal Form.

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[181] Plato *Timaeus* 29c-30b.

[182] Plato *Timaeus* 36c.

[183] Plato *Timaeus* 56c.

[184] Plato *Timaeus* 30a, 51a.

[185] Plato *Timaeus* 51a.

[186] Plato *Timaeus* 56c.

[187] Plato *Timaeus* 56c.

[188] Plato *Timaeus* 56e.

[189] Plato *Timaeus* 57c.

[190] Plato *Timaeus* 55.

[191] Plato *Timaeus* 57b.

The earth itself is considered a god, as are the other planets and stars.[192] As gods, they generate children such as the gods Oceanus and Cronos.[193] They in turn generate the familiar gods of Zeus and Hera, with the generations of gods continuing. Humans are constructed by these gods,[194] and are comprised of reason, soul, and body. What proceeds generates what follows: The demiurge creates the elements and the Cosmos, the primal gods generate the gods in human form, these gods in turn create human beings.

While the gods construct the human body, the demiurge creates the materials used to create the human body.[195] Bone marrow is considered the universal seed material for every mortal body. The demiurge forms this by using the primary triangles of earth, air, water, and fire.[196] The marrow is mixed with Soul to obtain both mobility and animation. There are three kinds, or levels of souls throughout the human body: *nous, thumos, epithumia,* or mind, emotion, and desire.[197] While the mortal soul was placed in the marrow in elongated shapes and placed throughout the body, the **divine seed,** *to theion sperma*, the demiurge formed into a sphere and put into the marrow to form the brain, *egkephalon*, to be put into the head, *kephalon* for each living creature.[198]

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[192] Plato *Timaeus* 40bc.

[193] Plato *Timaeus* 41a.

[194] Plato *Timaeus* 42e.

[195] Plato *Timaeus* 73b.

[196] Plato *Timaeus* 73c.

[197] Plato *Timaeus* 73c.

[198] Plato *Timaeus* 73d.

The bodily parts which are used for sensing perception have more soul.[199] The part of the body that is exercised becomes stronger.[200] To increase the immortal part, one is to educate oneself in regard to "the intellections and revolutions of the Universe."[201] In this way, one's guardian spirit, which is assigned to each person also increases.[202] Having devoted time to learning about the patterns and harmonies of the Universe, one is more inclined to think thoughts that are immortal or divine.[203] While the human being is comprised of soul and spirit, the connection between the spiritual and material realms is increased and divine thoughts are more apt to be experienced, as one devotes more learning to the Eternal Forms visible in the created realms. According to Hippolytus in *Refutation of Heresies*, for Plato every soul is immortal and self moved and the only really good things are those pertaining to the soul.[204] A return to the Stars is what awaits if one has exercised and increased the divine seed within.

A further connection between the Divine realm and that of humanity can be achieved through divine inspiration. Socrates often spoke of a warning voice or sign protecting him.[205] Poets and musicians sought the aid of Divine Inspiration to enhance their art, while diviners refined methods to enhance their receptive state to divine inspiration.[206] In *Ion*, the poet is directly inspired by the Muse, who in turn inspires the rhapsodists and dancers, who in turn inspirers the spectators. Divine inspiration is as a chain, described as the power of a magnet linking the rings together.[207] Inspiration directly connects the poet to the Divine realm of Ideas and the spectators are connected to the divine through the poet's art.

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[199] Plato *Timaeus* 75a.

[200] Plato *Timaeus* 89e-90a.

[201] Plato *Timaeus* 90d.

[202] Plato *Timaeus* 90d.

[203] Plato *Timaeus* 90c.

[204] Hippolytus *Refutation,* 1.16.

[205] Plato *Phaedrus* 242b; *Apology* 31c-d, 41d; *Euthyphro* 3b.

In *The Laws*, Book 10, Plato offers a definition of soul. Soul is defined as that which is self-moving, a divine power, a goddess. She (the soul) is prior to all that is, prior to fire, air, water, and earth. She inhabits, orders and guides all things that move, all things in heaven and earth. Things akin to the soul and prior to the elements are thought, attention, mind, art, and law, that is, the immaterial, eternal realm of ideas. When one partakes of the eternal ideas, whether through the senses perceived in nature or directly through the mind, the soul guides all to happiness, to a closer connection with the eternal realm.[208] The calculations of the reasonable mind and the path and movement of the heavenly bodies are of the same nature, according to *the Laws*, Book 10, and because the world and all in it have a soul, the connection to the eternal is through contemplation of the visible harmonies of nature.

Plato's Theory of Forms was worked out over several decades and modifies his theory of knowledge in *Timaeus*. Plato posits two realms, the Transcendental beyond space and time, permanent and unchanging, and the material world of sense perception.[209] Forms exist independently in the Transcendental realm. The Form of

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[206] Plato *Apology* 22b-c; *Lachus* 198e-199a; *Ion* 533d-536a, 538d; *Meno* 99c.

[207] Plato *Ion* 533d-536a; 538d-e.

[208] Though the soul can also be led astray when aligned with bad influences.

[209] Plato *The Republic* 6.

Forms, the Good, provides the order we see around us. Material objects exist as a copy of the Forms. In *Timaeus*, sense perception allows us to identify the intelligence and harmonious patterns in the Cosmos, while studying mathematics as an ideal form allows a clearer perception of the unchangeable Realm of Ideas. One is to exercise both body and soul as both are a whole and a generative product of the Cosmos.[210] Exercise of mind (mathematics and philosophy) and body should also be balanced with cultivation of music, which reflects the harmonies of the universe.[211] One is to "imitate" the natural rhythms and vibrations of the Universe in order to maintain health and salvation of the eternal soul.[212] Plato describes a very holistic cosmology. The world is a vibrant, living soul-filled model based on an Eternal Idea, and we as its generative product are again a copy of this model. To connect to the divine realm of Ideas, one is to draw into, contemplate, and imitate the eternal model provided by the harmonies and mathematical revolutions of Nature. Divinely inspired art also connects one to the eternal realm.

Aristotle's (384-322 BCE) cosmology stems from the astronomical findings and mathematical calculations of Eudoxus and Callipus, as well as the Egyptian and Babylonian data, and considers, rejecting or developing further the views of the Pre-Socratic philosophers and Plato to develop his world system.[213] He envisions a geocentric cosmology with concentric spheres, the outermost sphere being that of the fixed stars with the inner spheres of the planets, sun, and moon circling around a spherical earth.[214] At the sub-lunar level are the spheres of the four elements: fire, air, water, and finally the spherical earth.[215] All the spheres are contiguous forming a whole with no empty space between.[216] In *On the Heavens*, the outermost Heaven, the realm of the fixed stars is eternal, divine, not subject to change and un-generated with this conclusion arising from the Order observed from observation and particularly the astronomical data.[217] The heavenly bodies are attached to spheres which move in circular paths around the earth, they do not move on their own.[218] From heaven, all being and life is derived.[219]

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[210] Plato *Timaeus* 88c.

[211] Plato *Timaeus* 88c.

[212] Plato *Timaeus* 88Bd.

[213] Aristotle *On the Heavens* 2.12; Aristotle *The Metaphysics* 12.8,12.

In *The Physics*, Aristotle discusses the concept of the unmoved Mover, the One who is the cause of the motion of the outermost sphere. The unmoved Mover is outside of the universe, beyond the sphere of the fixed stars.[220] The only movement which is the source of itself is self-contemplation. This is the only motion proper for the Divine, contemplation. The unmoved Mover does not have direct contact with or move the Cosmos. The celestial bodies are considered intelligent by Aristotle and are moved by contemplation of the beauty of the Divine in a perfect path of circular motion.[221] This begins the movement of the spheres each in perfect circular paths as the celestial bodies contemplate the Divine.

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[214] In *On the Heavens*, there are three spheres above those of the spheres of the four elements. Aristotle *On the Heavens* 1.3. In *The Metaphysics*, Aristotle envisions fifty-five concentric spheres, some rotating in the opposite direction. Aristotle *The Metaphysics* 12.8.

[215] Aristotle *The Physics* 12.4,14; Aristotle *On the Heavens* 2.4.

[216] Aristotle *On the Heavens* 2.4; Aristotle *The Metaphysics* 12.10.

[217] Heaven is used in three senses: "(a) In one sense, then we call 'heaven' the substance of the extreme circumference of the whole, or that natural body whose place is at the extreme circumference. We recognize habitually a special right to the name 'heaven' in the extremity or upper region which we take to be the seat of all that is divine. (b) In another sense, we use this name for the body continuous with the extreme circumference which contains the moon, the sun, and some of the stars; these we say are 'in the heaven.' (c) In yet another sense we give the name to all body included within extreme circumference, since we habitually call the whole or totality 'the heaven'. Aristotle *On the Heavens* 1.3.

[218] Aristotle *On the Heavens* 2.8.

[219] Aristotle *On the Heavens* 1.9.

[220] Aristotle *The Physics* 8.10.

While the stars are made of a fifth element, *aither,* matter is a combination of the four elements, earth, water, air and fire, plus the interaction of the primary opposites hot, cold, dry, and wet.[222] The many things of the material world are due to the four causes: the material cause, the formal cause, the efficient, and the teleological.[223] His physics is a reaction to the materialists, the Pythagoreans, and Plato: the things of matter do not arise due to atoms colliding, or generation of mathematics, or due to eternal Ideas.[224] In *The Physics*, Aristotle describes the (efficient) cause of things coming into being as from the unmoved Mover and the eternal motion of the heavenly bodies. This motion of the later causes in turn the movement of the lower sphere, and eventually the sun's movement. The heat and movement of the sun causes the mixing of the four elements, the generation and decay of plant and animal life, the seasonal changes and meteorological effects of excessive heat, drought, cold, and rain.[225] The things of matter arise due to generation, alteration, and growth (this is the material cause). Generation is the transformation of one thing into another. "The destruction of one substance is the generation of another, and vice versa."[226] Alteration is distinguished as when a new quality arises out of a substratum.[227] Growth is change of size and place.[228] In his doctrine of the four prime contraries (hot, cold, moist, and dry), heat and cold are the active factors which cause generation and decay of matter.[229] The sun's heat and light is the source of change of matter on earth,[230] while its movement is due to the eternal heavenly bodies. He states in *Metaphysics* that "the world is not such that one thing has nothing to do with another, but they are connected. For all are ordered to one end..."[231]

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[221] Aristotle *On the Heavens* 2.6; Aristotle *The Metaphysics* 7.7.

[222] They shine due to friction and speed, not due to being a fiery substance. Aristotle *On the Heavens* 1.3; 2.7.

[223] The material cause concerns what something is made of. The formal cause concerns what form something takes. The precipitant cause concerns how something was made, and the teleological concerns the directed goal, or why or for what purpose something was made.

[224] Aristotle *The Metaphysics* 1.9

[225] Aristotle *Meteorologica* 1.3

The formal cause in regard to sensible shapes is the plan of the structure.[232] In Aristotle's system matter is described in terms of organisms with goals, the teleological cause. Even minerals were considered to grow, and grow towards a goal. Instead of Forms and a world soul as in Plato's system, Aristotle has teleological organisms, each individual member of a species striving towards a common structure for that species.[233] The things of matter arise in a movement from potentiality to actuality.

The nature of the soul is discussed in *De Anima*. Aristotle states that his predecessors have only discussed the human soul, whereas he regards the proper way to proceed is to discuss the larger class of the animal soul in general.[234] In the introduction, he states "in some sense the soul is the principle of life" and based on observation, the soul "in the majority" of cases does not act without a body, therefore soul is defined by Aristotle as en-mattered.[235] He finds absurd the Pythagorean concept of reincarnation, that the soul could survive death and occupy a different bodily form. He points out that for the early philosophers, animation and sensation were considered the characteristics of soul.[236] In Book II of *De Anima*, he defines the soul as the innate directed movement (he calls it a substance) from potential to actualized form of a living body, with living characterized as the power of self-nutrition, sensation, thinking, and movement.[237] There is no world soul for Aristotle; whether a body has a soul corresponds to its form, how it is organized.[238] Aristotle describes three degrees of soul depending upon how a body is organized. The three categories of soul are the vegetative, sensitive, and rational.[239] Each distinction represents the kind of activity possible for a body. The vegetative body/soul has the capacity for life. The sensitive soul has the capacity for both living and sensing. And the rational soul includes thinking as well. Unlike Plato's view in which the entire universe was described as a creature with a soul, or even the materialists who regarded *invisible minute* fiery atoms to comprise the animation of the soul, Aristotle constructs a cosmology in which in the higher levels there is more soul with the divine in the heavenly sphere and in lower levels there is less soul.[240]

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[226] Ross, 101-2.

[227] Ibid., 101.

[228] Ibid., 102.

[229] Aristotle, *Meteorologica,* trans. H. D. P. Lee, Loeb Classic Library, 397 (Cambridge: Harvard University Press, 1962), introduction, xxviiiii.

[230] Aristotle *The Metaphysics* 12.5.16.

[231] Aristotle *The Metaphysics* 12.10.

[232] Ross, 74.

[233] Ibid.

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[234] Aristotle *On the Soul* 1.1.

[235] Aristotle *On the Soul* 1.1.

[236] Aristotle *On the Soul* 1.1.

[237] "The soul must be a substance in the sense of the form of a natural body, having life potentially within it." "It is substance in the sense which corresponds to the definitive formula of a thing's essence." Aristotle *On the Soul* 2.2.

[238] Aristotle *On the Soul* 2.4.

[239] Aristotle *On the Soul* 2.4.

In Aristotle's scheme even entities with souls did not necessarily have any mental capacity. For example, in *On Plants* he describes plants as having only part of a soul because they are living, but there is no movement in that they are attached to the earth and have no mental capacity.[241] He associates the degree of mental capacity with the organization of the body, the more complexly organized the more mental capacity, while less complex bodies for Aristotle have soul but not mind. In Book 7 of *The Metaphysics,* Aristotle explains that in the activity of thinking, thought is actualized, "unmixed with that which is bodily" and attains a share in the Divine whose vitality is defined by Aristotle **as** active thinking. Undefiled pure thought is the mode of connection to Divine. Teleology is an element of the fabric of the cosmos, at least for organisms there is a striving after perfect form and the Divine.[242] The connection is the innate drive which can be enhanced by thinking about the Divine.

The celestial bodies are considered intelligent by Aristotle and are moved by contemplation of the beauty of the Divine in a perfect path of circular motion.[243] This begins the movement of the spheres each in circular paths as the celestial bodies contemplate the Divine. Since all spheres are contiguous (no void allowed) the first sphere triggers the movement of the next sphere down. A ripple effect occurs. The movement is of regular cycles, repeated, yet the spheres move at different speeds and directions creating variations. Aristotle provides in *On Prophesying by Dreams* an account for describing how dreams of a future event may arise. Borrowing from Democritus the idea of emanations from the motion of matter and owing to the stillness of the night, what happens above translates into what will happen in the future. Such vibrations may be received by the senses due to the stillness of the night which would not necessarily be the case in the day with interference from activities. This explanation seams to Aristotle to be more likely, in his hierarchical view he admits he cannot fathom that the gods would condescend to visit average people offering visions of the future.

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[240] The divine is not comprised of soul, but *aither*. Aristotle *On the Heavens* 1.3.22.

[241] Aristotle *On Plants* 1.2.30.

[242] "As far as its nature allows (regarding plants, animals, humans) they may partake in the eternal and divine," with the soul being the final cause of its body. Aristotle *On the Soul* 2.4.

[243] Aristotle *On the Heavens* 2.6; Aristotle *The Metaphysics* 12.7.

Overall, his view is mechanical in nature, movement above in the Divine realm of the fixed stars triggers movement below, while movement below is restricted to the form of a body. The unmoved Mover has no contact with the world of matter, the Divine sphere instead responds to the Divine and is moved by contemplation, in turn causing motion below, including the sun's movement. Aristotle gives primacy of place to the power of the sun, considered to be divine, the light, or heat of which is the cause of life, change, generation and decay on earth. The geocentric model Aristotle adopted from Eudoxus of Cnidus in the fourth century BCE, would be further modified by Ptolemy, with Ptolemy's model holding sway until the heliocentric model of Copernicus in the sixteenth century.[244]

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[244] Babylonian astronomers kept meticulous records of astronomical phenomenon, but derived from these no new cosmological models.

For the Stoics (founded by Zeno, 334-262 BCE) Zeller describes their view of nature as materialistic, dynamic, and panentheistic. [245] Their materialism however was not that of previous philosophers, nor is it mechanistic. Matter was re-defined. In the Stoic cosmology, the world begins as the Divine and the Divine becomes the world.[246] Every finite thing which existed is a procession from the Infinite.[247] For the Stoics, the world begins as Deity, as a fiery, gaseous or vaporous state and develops outward into its forms.[248] This fire, again re-defined by the Stoics, is not simply one of the four basic elements, but *pneumata*.[249] Borrowing from Heraclitus, this fire is imbued with reason, shaping seeds, *logoi spermatikoi,* becoming matter and giving matter its form.[250] *Logos* is in matter. As Zeller states, spirit is an "artistic fire."[251] Matter was imbued with *pneumata,* conceived of as having force (an active principle) and reason.[252] Matter was further defined as anything which had the capacity to act, or to be acted upon.[253] This re-defined matter would then include, according to Zeller, what previous philosopher's defined as spirit, soul, God, thoughts, emotions, even Plato's ideals, were categorized as matter for the Stoics simply because such things could act, could make an "impression" on the soul.[254] To say that the Divine was matter offended some, particularly Aristotle and Plutarch, it was quite the opposite of Plato's immaterial Transcendental realm.[255] For the Stoics, the Divine "is the connecting element in all things."[256] Wolfhart Pannenberg quoting Max Jamner, states that the Stoic cosmology is the original Field Theory.[257]

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[245] Eduard Zeller, *The Stoics, Epicureans and Sceptics,* trans. Oswald Reichel, new and rev. ed. (New York: Russell and Russell, 1962), 126.

[246] Ibid., 156-8. Hippolytus *Refutation of All Heresies* 1.18.

[247] Zeller, *Stoics*, 33.

[248] Ibid., 156-58.

[249] Ibid., 139.

[250] Ibid,, 135, 139, 158, 161, 172.

[251] Ibid., 158, 161.

[252] Ibid., 135, 139.

[253] Ibid., 128-30.

In the Stoic system, matter and spirit connect through the world of experience.[258] "The world of objects forms an 'impression' *tuposis* on the soul through the senses."[259] Cleanthes compared this impression to that made by a seal on wax.[260] **One becomes literally more in-formed through experience; the form in matter impressed itself on the soul of the observer through the senses.** Connection of matter to Spirit for the Stoics, while ontological throughout creation, could be enhanced through the senses.

Summary and Conclusion for Plato, Aristotle, and the Stoics:

For Plato, there is the Transcendental realm of Ideas, with The Good at the apex, there are gods, including a creator god, and a world of matter which has a soul. The bodily parts which are used for sensing perception have more soul.[261] The part of the body that is exercised becomes stronger.[262] To increase the immortal soul (so one's fate is not as Odysseus described in his trip to the underworld, but rather a return to the Stars) one is to educate oneself in regard to "the intellections and revolutions of the Universe."[263] Also, having devoted time to learning about the patterns and harmonies of the Universe, one is more inclined to think thoughts that are immortal or divine,[264] this is the connection to the divine. Plato also described a connection to the divine in terms of inspiration, that by hearing something which is divinely inspired, such as music (the harmonies), or reading something which is inspired, we become divinely inspired.

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[254] Ibid., 92-3, 129-30.

[255] Aristotle and Plutarch objected to the Stoic concept that the soul could be impressed upon by matter and affected, even "polluted" by matter.

[256] Zeller, *Stoics*, 149.

[257] Wolfhart Pannenberg, *Toward a Theology of Nature: Essays on Science and Faith* (Louisville, KY: Westminster/John Knox Press, 1993), 13, 38.

[258] Zeller, *Stoics,* 77.

[259] Ibid.

[260] Ibid., 78.

[261] Plato *Timaeus* 75a.

The connection for Aristotle is that the movement of the heavenly bodies (stars and planets) is inspired by the Divine beauty, and the movement of the celestial bodies then mechanically triggers movement on the earth. The planets are considered divine, and so there is connection with matter below, but there is no direct connection to the ultimate Divine. The Stoics take the opposite view. The divine is in Nature as fiery shaping seeds of reason, *logoi spermatikoi*, and the way to connect to the divine is through the senses as the rational principle in Nature is impressed on the soul. For Herclitus, Pythagoras, Plato, and the Stoics contemplating the order and harmonies of the Cosmos, of Nature, allowed for connection to the Divine to be enhanced. The concept of the *Logos* as connection to the divine would be further developed by the middle Platonists, particularly Philo. Aristotle's view that the connection to the Divine, defined as Active Intellect, was through mind to Mind, would eventually win out in later

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[262] Plato *Timaeus* 89e-90a.

[263] Plato *Timaeus* 90d.

[264] Plato *Timaeus* 90c.

Christian doctrine as will be discussed below in Chapter Three. The view that access to the Divine is through the senses and mind connected with Nature will be pursued further throughout this dissertation.

Middle Platonism

The philosophers of Middle Platonism (130 BCE – 150 CE) would have great impact on early Christian cosmological models, including Pauline and Johannine biblical writings, and the Christian apologists of the second and third centuries.[265] The middle Platonists would blend Stoic, Aristotelian and Platonic ideas, particularly from *Timaeus* to provide cosmological hierarchical models from the transcendent order to the material realm. In the same time period, in Gnostic cosmologies an increasing number of mediating deities would be envisioned. Early concepts of the philosophic mediating principle between the Transcendent and matter, the *Logos,* would also be developed further.

Before a review of concepts from Middle Platonism, important developmental concepts from the Old Academy after Plato will be briefly touched on which will find their way not only into Middle Platonism, but also Gnosticism. A primary concept was of the One and the Dyad from the Pythagoreans. In Middle Platonism, the demiurge and world soul in *Timaeus* are replaced by The Dyad from Pythagoreanism. In Speusippus' cosmology, the Divine One is removed further back, as he describes a total of ten levels of reality, eternally generated which exist above the world of matter.[266] Xenocrates identified the One as *Nous,* and also Father. The Dyad he identified as Mother and matter, replacing the Receptacle in *Timaeus.*[267] Xenocrates identified two different classes of gods: the good Olympic gods and the Titanic daemons. Offering a theory of knowledge, Philip of Opus, editor of Plato's *Laws*, regarded the greatest wisdom to be from contemplating the celestial bodies. Such concepts would form a bridge to Middle Platonism and Gnosticism.

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[265] J. Rebecca Lyman, *Christology and Cosmology: Models of Divine Activity in Origen, Eusebius, and Athanasius* (Oxford: Clarendon Press, 1993).

For the Middle Platonist, Antiochus of Ascalon (d. 68 BCE) rational fire is the primary substance of the Cosmos. God, the stars, the human mind, are made of fire. Antiochus replaces Plato's idea of the Demiurge in *Timaeus* and the World Soul with the *Logos* as connective link. This *Logos* is made of fire and is intelligent power. He like some philosophers of the Old Academy, de-anthropomorphizes the intermediary concept of the Demiurge, preferring Heraclitus' concept of the *Logos.*

Philo of Alexandria (20 BCE – 50 CE) follows in Antiochus' line of thought. The Demiurge of Plato's creation account is replaced with the *Logos* (Hebrew *davar,* word). Also as was the trend in the Old Academy, in Philo's work, God is removed further back from the world of matter and described as dwelling in Light.[268] The *Logos* is used extensively by Philo for a conceptual link between God and the world, emphasizing God's transcendence. Whereas in Greek philosophy the celestial heavens conveyed divine light and the Monad was employed as the Source of all, in Jewish Hellenistic thought, the one God is Source of all who dwells in light above. While God for Philo is beyond all being, it is the *Logos* which creates the world through speaking and acting, creating the world in the image of the *Logos*. The *Logos* is defined as the sum total of Ideas, the pattern of all creation, the idea of Ideas. As in Stoicism, the *Logos* emanates into everything in the world. So the connection between God and the world is the intelligent principle of the *Logos*.

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[266] Zeller, *Outlines*, 165-70.

[267] Theophrastus *Metaphysics.*

[268] Philo *On Rewards and Punishments* 47.

Following Aristotle, what separates humans from the animal and plant world is Mind and Freedom, only humans have Mind and this is their access to the *Logos*. Philo describes two approaches to apprehend the Divine, one indirect and the other direct.[269] The first involves training in scripture and meditation. The second way is to go beyond the sensory world to receive intuition or a mystical vision, described as gift.[270] This is done by "numbing" the appetites and then "the better part of the soul expands."[271] Philo identified three levels of humanity: Apprehension of the Divine is only possible for those of a purified mind through the *Logos*.[272] Those at a lower level can only recognize the *Logos,* through reasonable calculation based on the transcendent order in the world, unlike Pythagoras who allowed that a deep contemplation of the orderly cosmos purified the mind to enhance connection .[273] Others at a still lower level of humanity cannot even ascertain the intelligence of the patterns of Reality.[274] Reflecting Zoroastrian conceptions, Philo describes two Powers active within the human being, one beneficial the other destructive. Only those who have overpowered the destructive power within can, with a purified mind, connect with the *Logos* which is in turn connected with God.

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[269] Philo *On Rewards and Punishments* 43.

[270] Philo *On Rewards and Punishments* 28-30, 40-66.

[271] Philo *On Rewards and Punishments* 48.

[272] Philo *On Rewards and Punishments* 43.

[273] Philo *On Rewards and Punishments* 41-43.

[274] Philo *On Rewards and Punishments* 40.

God is eternally creating the intelligible Ideas of the *Logos*. Creation is on-going and continuous through the Intelligent principle; it is not a one time event. Borrowing from the Materialists, even space and the Void are Ideas which are created through the *Logos* and did not exist prior to Creation. So this is not Creation out of the Unbounded or the Receptacle, or an emanation from the Divine, but rather Creation *ex nihilo*, an idea first put forward by Basilides. To advance Plato's basic geometric shape of the triangle to form the elements of matter, Philo has the cube for earth, the pyramid for fire, the octahedron for air and the icosahedron for water, giving the four basic elements more complexity in structure, with the very essence of matter being mathematical as with Pythagoras. Because creation is continuous, miracles may occur naturally and are not regarded as an interruption of, what we would call, the laws of nature. In Philo's philosophic cosmology, the Jewish concept of monotheism has merged with the Greek philosophical concept of the Monad, with the *Logos* employed from Heraclitus and the Stoics, as the connective element between the Divine and the world of matter.

Syrian-Egyptian Gnosticism

According to the heresiologists, Gnosticism was evident in the first century in Syria – Palestine. Riley places it earlier, in the second century, BCE based on similar expressions of disillusionment of Temple Judaism as those of the Qumran community.

While there is great diversity among Gnostic sects (Layton identifies five schools of thought) [275] there are common characteristics among the various schools: the unknown God beyond all that is, associated with the *pleroma* of the spiritual realm, the assertion of a divine spark within which calls for awakening, a journey of the soul to return to the spiritual realm, and dualism. Jonas has identified two basic types of dualism: the Syrian-Egyptian type (which includes the majority of gnostic texts as well as those of the Nag Hammadi library) and the Iranian-Zoroastrian type, identified in Mandeism and Manicheism, which will be discussed in Chapter Three.[276] For Syrian-Egyptian Gnostic dualistic cosmology there are two primary principles, light/spirit and dark/matter, set upon a monistic background which links human and divine.[277] In the Iranian type, the kingdom of light and the kingdom of darkness exist separately, there contact sets the history of the world in motion.[278]

A classic narration of Gnostic cosmology from the Nag Hammadi library appears in *The Apocryphon of John*. This text provides a representative cosmogony in four acts, describing the world of matter in very dark terms, distant and distinct from the Divine Realm of Light. In the first act, the Divine Source emanates the spiritual universe in successive stages.[279] The successive stages constitute the *pleroma,* a fullness of *aeons*. The *aeons* are at once angelic realms, extents of time, places, and abstract concepts with names such as forethought, incorruptibility, and wisdom as the lowest spiritual realm.[280] The Divine Source on the other hand is the "unknown god...deep and hidden"[281] described in Gnostic texts in apophatic terms, such as ineffable, invisible, immeasurable, unnamable, even indescribable as divinity.[282] Yet, some descriptions are provided such as invisible spirit, existing in uncontaminated light, God is immeasurable light, giving power, goodness, mercy, and grace to the *aeons*, yet separate from them.[283]

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[275] Bentley Layton, *The Gnostic Scriptures: A New Translation with Annotations and Introductions*, The Anchor Bible Reference Library (Garden City, NY: Doubleday, 1987), xvi.

[276] Kurt Rudolph, *Gnosis: The Nature and History of Gnosticism* (San Francisco: HarperSanFrancisco, 1987), 64.

[277] Ibid., 57-58.

[278] Ibid., 64. Rudolph also identifies a three principle system within Gnosticism. In this system there is a distinction between light, spirit, and darkness, with spirit coming between the two. Rudolph, 85.

[279] Layton, 12-15.

Continuing with the cosmogony of the *Apocryphon of John*, in act two a crisis has occurred at the spiritual periphery, the realm of Sophia/Wisdom. She has given birth to an illegitimate child, *Yaldabaoth,* child of chaos, who having been cast off becomes the creator of the world of matter. This world is not just a copy of a spiritual universe, but considered a counterfeit copy. [284] Surrounding the earth and air are eight heavenly spheres (Moon, Venus, Mercury, Sun, Mars, Jupiter, Saturn, and the realm of the fixed stars) which are not there as shining objects reflecting the order of the universe, but now the tyrannical archons of fate.[285] The mechanistic movements of the planets affecting movement through the lower realms and in turn then affecting earth as earlier expressed by Aristotle, has now advanced to these same planets being looked upon as controlling.

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[280] Layton, 15.

[281] Rudolph, 88.

[282] *Apocryphon of John* 3.

[283] *Apocryphon of John* 3. A later Valentinian text, the gospel of Philip states that the Monad is not to be equated with words such as light, god, or holy spirit, because earthly language is inadequate, it is "deceptive." *Gospel of Philip* 53.23f

[284] *Apocryphon of John* 2.12,13.

[285] Rudolph, 67-68.

Although the creator god with the aid of the archons makes human beings, such as in *Timaeus*, these humans are deficient, inanimate.[286]

Act three concerns Sophia's desire to regain her lost power, power within her offspring, which was used to make the world.[287] She tricks *Yaldabaoth* to "blow" some of his "spirit" into the face of the human being which then causes animation, a gnostic commentary on Genesis 2:7. This act causes the material body of the human to "shine" and come alive, reflecting the Gnostic concept of the soul as light-based.[288] The Archons become envious and cast the human into the lowest part of matter, which causes the human being to become forgetful of the spirit within.[289] The human is in essence enslaved, even though spiritual power resides in the first human as well as successive generations. As Rudoph states, "the spirit is encapsulated in man (sic) and man is encapsulated in the world."[290]

In act four, a heavenly savior is sent to awaken the people to their divinity within. This redeemer figure is the only-begotten child of the Divine "Mother-Father," the Monad and the first emanation (Barbelo).[291] He is begotten from Light with light.[292] The knowledge which the only-begotten brings is salvation. It is knowledge of self and knowledge of the divine.

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[286] Rudolph, 83.

[287] *Apocryphon of John* 13.1-4, 27-28.

[288] *Apocryphon of John* 19.32-34.

[289] *Apocryphon of John* 2.12.

[290] Rudolph, 70.

[291] *Apocryphon of John* 6.10-20.

[292] *Apocryphon of John* 6.10-20.

In Gnostic anthropology, a tripartite division of the person is described, such that the human being consists of body, soul, and spirit.[293] (Plato had conceived of a three-part nature to the soul: mind, emotion, desire.) To connect to the divine spirit within there is the awakening call, described in terms of coming from a heavenly redeemer figure who brings wisdom, or as wisdom or insight itself. Second, in ascetic Gnostic movements, purification from psychic and bodily defilement is needed.[294] Third, one must be proven superior against bodily and psychic passions, as well as against traps set by the rulers of fate (the archons). With this, the light, or "the transcendent core" [295] may re-connect with the spiritual home.

The spirit within relates to the spiritual realm and is said not to be connected to the world of matter.[296] Yet, the pneumatic seed is in the soul, the soul is in the body. Rudolph points out that while the spirit has no connection with the soul, yet in the pre-awakened state one must discover the truth in order to experience it.[297] Heresiologists claimed that Gnosticism was natural theology, one did not need a savior, that the seed of salvation was internal.[298] The pneumatic seed, trapped and dormant may become activated through a person or a concept.[299] Besides an illuminator/*phoster*, Rudolph lists six other entities which have a soteriological function in Gnostic texts: wisdom/*sophia,* the spirit of truth, understanding/*nous*, insight/*epinoia*, power of thought/*ennoia*, and the word or reason/*logos*. In Irenaeus, *Against Heresies*, he states that in Gnostic belief that Adam and Eve were "led by wisdom." [300] An example of the spirit of truth as leading and connective element can be found in the *Hypostatis of the Archons* (2.4), while in the *Second Logos of the Great Seth,* the speaker of insight "needs few words" because connection occurs via insight to insight. In the *Hymn of the Pearl* (110) it is not a person, but a letter from the spiritual realm which awakens the spirit. The heresiologists' claim that Gnosticism is natural theology due to the internal pneumatic seed may be valid.

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[293] Rudolph, 91-2.

[294] According to Ireneaus, there are libertine gnostic sects who must experience all the world has to offer in order to pass through the realms of Archons after life, having paid their debt to each. Iraneaus *Adversus Haereses* I.25.4 cited in Hans Jonas, *The Gnostic Religion: The Message of the Alien God and the Beginnings of Christianity*, 2nd ed. (Boston: Beacon Press, 1991), 273.

[295] Rudolph, 91.

[296] Ibid., 88.

[297] Ibid.

[298] Ibid, 117.

[299] Ibid., 131.

The illuminator, light bearer, or redeemer figure from the heavenly realm is well attested in Gnosticism. The illuminator allows for a connection between the world of matter and the Divine. The connection occurs when the dormant pneumatic seed is activated. Rudolph lists several such light bearers in gnostic texts: the heavenly Adam, the heavenly Eve, Seth, Enosh, the high priest Melchizedek, the angel Baruch, the angel Eleleth.[301] While in some Gnostic texts the *logos* is considered the call,[302] in the *Trimorphic Protennoia*, a woman appears as the Protennoia, who is at once "the mother of the call," and "the (reason) which is in every creature."[303] In the third section of the *Trimorphic Protennoia* and the Christian Gnostic text of the Gospel of John, the *Logos* is equated with Christ. These persons and concepts provide the connection between the world of matter and the world of light.

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[300] Irenaeaus *Against Heresies* 1.30.9.

[301] Rudolph, 131.

[302] Ibid.,120.

[303] Ibid., 124.

A further connection between spirit and matter is the return of the soul to the realm of the spirit upon death, which is dependent upon what occurs in one's lifetime. Sounding very much like Plato, if united with the power of light in one's earthly journey, then there will be a return to spiritual realm.[304] This uniting gives the soul power for life. Knowledge of God is power as is purification, in ascetic Gnostic texts. (In libertine Gnostic sects, the ascent of the soul after death is dependent upon experiencing all the material and psychic, or emotional, experiences the world has to offer.) The attainment of knowledge of God benefits one in this life and the next. The ascent of the soul depends upon whether the material and psychic enslavements have been set aside over time.[305] For ascetic Gnostics, on the other hand, the element of light must be thoroughly purged of dross.[306] In the *Hymn of the Pearl*, the Prince's spiritual garment in heaven increases in energy while he is on his lifetime journey.[307] The Prince receives a letter from home, the spiritual realm, which awakens his spirit within. In the *Authoritative Teaching*, the soul who attained to knowledge of God finds rest in the realm of light, finds grace having endured shame.[308] The ascent of the soul to its heavenly home is connected to and dependent upon having received *gnosis* and (in ascetic texts) purged the self of physical and emotional barriers. The connection of matter to Spirit is anthropological, the internal pneumatic seed allows for communication, insight and power for life, and return to the spiritual home. The activation of the spiritual seed occurs through a heavenly light bearer or through insight itself.

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[304] Ibid., 184.

[305] Ibid., 186.

[306] Ibid., 188.

[307] *Hymn of the Pearl* 113, 93.

[308] *Authoritative Teaching* 6 3.34.32-35.18.

Summary of Middle Platonism and Syrian-Egyptian Gnosticism:

The rise of monotheism is increased here in Middle Platonism and the divide between the Spirit realm and the world of matter is also increased. In the sixth century Xenophanes had said that the wise One is willing and unwilling to be called Zeus. With Xenocrates the One is identified as Nous, but also Father, while the Dyad he identified as Mother,

a movement from Plato's *demiurge* and the receptacle of becoming. Gnosticism described the Monad variously as Mother/Father, or unspecified in gender. For Speusippus, there are ten levels between the Divine and world of matter. Philo increased the divide, in that God is likewise removed further back and the *Logos* becomes a Creating Idea that functions as a bridge between the Divine and the world. For Plato, the demiurge, a god, functioned between the world of Ideas and the material world, and the creation was beautiful, and one contemplated the patterns and harmonies in the world of creation to strengthen the divine soul within. For Philo, this route to the Divine was better than not being able to see the *Logos* in creation at all, but the more superior route was through the purified mind. Training and meditation in scriptures purified the mind. For Gnostics the Order and Harmonies in creation as an avenue to the Divine was discounted even further, in fact matter was considered the realm of darkness. There was however a divine seed or spark within which could be activated through a Light bearer, who came directly from the Monad bringing truth and divine knowledge. The light principle, often described in terms of fire, prominent in the thought of Anaximander, Heraclitus, Pythagoras, Leucippus and Democritus, is again brought in with Antiochus of Ascalon with his view that rational fire is the primary substance of the Cosmos. The Monad, the stars, the *Logos*, the spiritual realm, even the human mind, has been described as comprised of rational fire, a principle of light.

Conclusion

A symbiotic relationship exists between science and religion; how Spirit and matter connect depends upon one's cosmology, the definition of spirit and matter within that cosmology, and theory of knowledge. In the cosmology of the three-story universe, how the divine and the world of humanity relate and interact is as Person to person. Prayer as form of communication may be enhanced through the medium of the priesthood, who act as intermediaries, with the entire world of matter filled with gods divine. With major shifts in science in the sixth century BCE, and thus producing a shift in cosmological descriptions, new insights into the nature of the Divine and the world impacted how the interrelation was achieved. Various pre-Socratics would continue to regard the world as divine, generated through One Divine Source, whether water, air, or fire. For Pythagoras, the Cosmos was mathematical, orderly and harmonious, to achieve connection to the Divine purify the mind by contemplating the order in Nature. For Heraclitus, the fiery *Logos*/reason, considered a deity and evident in the order of Nature, revealed divine intelligence in the Cosmos. We become wise by contemplating the reason in Nature. The soul was considered to be finely particled matter, defined by Heraclitus as fine vaporous, fiery substance, while for Democritus the soul consisted of fiery round atoms. For Plato, the Cosmos was divided with the world of Ideas above, and matter below. The world of matter was described as a living creature with soul inherent in matter and the eternal forms evidenced throughout nature, and the divine seed in the human brain. The soul is defined in *The Laws*, Book 10 as a self-moving divine power. While the human being is comprised of body, soul and mind, the connection between the immaterial spiritual realm and the material realms are increased and divine thoughts are more apt to be experienced as one devotes more time to learning, i.e. educates oneself, to the Eternal patterns and harmonies visible in the created realms. Even a return to the Stars is what awaits if one has exercised and increased the divine seed within, based on earlier perceptions of reincarnation expressed by Orphism and Pythagoreanism.

For the Stoics, the Divine is in the world and the world is in the Divine; Divine Intelligence does not just organize creation, Divine spirit becomes matter, while matter contains Divine form. Interconnection is not only intelligible, but ontological and sensory. Experiencing the world of matter through the senses impresses upon the soul the divine forms within matter, the *logoi spermatikoi*, rather than just achieving a mental connection. **The soul is altered with its encounter with Nature**. Plato had described the sensing part of the body as having more soul, for the Stoics the world of objects forms an impression on the soul through the senses with the world itself as a manifestation of the Divine. With the divine *Logos* in nature itself, the senses allow for conveyance of this divine information impressed upon the body.

The dominant position, however, which would move forward into the Middle Ages would be Aristotle's. For Aristotle, the connection between the Divine and material world is through mechanical movements of the heavenly realm which translates to alterations below. A further connection is achieved through mind, thinking pure, undefiled thought, unencumbered by the body, connects one with the Divine Intellect. The bridge between the Divine and World is limited in that matter itself is not en-souled at the lowest level, the level below vegetation. Inorganic matter was considered not to have a soul because animation, a primary definition of soul/spirit could not be detected. Aristotle's de-mythologized view would be taken up in the universities of Europe in the Middle Ages.

For Philo, with the Divine further removed in his cosmology from that of Plato's, apprehension of the Divine is possible in two ways, indirectly through the *Logos*, the Intelligible Ideas of Creation and through study of the scriptures followed by meditation, while only those of a purified and strengthened mind can achieve connection directly with, not God, but the *Logos*. The Gnostics on the one hand regarded Nature negatively, it was a counterfeit copy of the Spiritual realm and so access to the Divine would not be possible through Nature itself, while the Divine spark within the individual did allow for access to the Spiritual realm of Light. The Gnostic view would evolve in a more positive direction with Manichaeism and Hermeticism, which will be addressed in the following chapter. The concept of the *Logos* stemming from Greek philosophy and employed by the writer of the Gospel of John would be carried forward by Christian Apologists, to be addressed in the next chapter, along with the dominant Aristotelian tradition which would be taken up by Aquinas. While Hermeticism will carry forward the positive aspect of Nature as divine, the concept of the *Logos* in Nature put forth by Heraclitus and the Stoics would be increasingly restricted in its application to Jesus by Christian writers.

CHAPTER THREE

THREE HISTORICAL TRADITIONS LEADING TO THE SEVENTEENTH CENTURY BATTLE OF COSMOLOGIES

Introduction

In *Religion and Scientific Naturalism*, David Griffin relates the existence and influence of a three way battle of cosmologies in seventeenth century Europe.[1] Three trajectories of traditions would feed into the rise of this conflict. The first stems from Gnostic-Hermetic, Neo-Platonic, and Mystical movements.[2] The second arises from the Aristotelian-Thomistic tradition. And the third encompasses the Legal-Mechanistic cosmology.[3] As Griffin relates, the mechanistic view would win out with the sponsorship and support of the Christian Church.[4] In modern times what has emerged in the after affects of this seventeenth century battle is the prevailing religious cosmological model of a Mechanistic worldview within a Supernatural Theistic framework.[5] In this chapter the three traditions will be reviewed with a focus on how Spirit and matter interconnect. In Griffin's presentation of the three way battle, he emphasizes the element of energetic matter in the Hermetic-Neo-Platonic-Mystical tradition, but does not bring out the element of Light which will be a focus here. The theme of Light is prominent in Hermetic and Manichaean traditions, beginning in the second to third centuries C.E., as well as in Mysticism and Neo-Platonism. This will be set in contrast to the definition of matter as inert and un-in-formed offered by philosophers of the ascending mechanistic Cartesian-Newtonian worldview. Between these two traditions will be presented a brief review of the rise of orthodox Christian theology from the Patristic period through the sixteenth century, in terms of conceptions of the interconnection of the Divine and matter. It will be shown that in orthodox, non-mystical Christian theologies there is a rise in Supernatural theism. The rise of the orthodox view is at the expense of the panentheistic and certainly pantheistic traditions which describe matter as en-souled containing transformative powers and light filled. At the end of this chapter a brief literary review of modern biblical interpretations which reflect the Mechanistic-Supernatural paradigm will be presented.

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[1] David Griffin, *Religion and Scientific Naturalism: Overcoming the Conflicts,* SUNY Series in Constructive Postmodern Thought (Albany: State University of New York Press, 2000), 110f.

[2] The Hermetic tradition would experience a revival in the Greek Renaissance in Italy in the 15th c.

[3] Griffin, 110f.

[4] Ibid.

[5] Ibid., 25-26.

Interconnection as Light: Manichaeism, Hermeticism, Neo-Platonism, and Mysticism

Manichaeism

The cosmology of the Manicheans advances the classic Gnostic cosmology by positing recurring periodic episodes of cosmological eons in which dark matter is transformed into light.[6] The founder Mani (210 to 276 CE) based the Manichaean religion on his revelatory experiences. He understood himself to be not only a prophet, but the manifestation of the Holy Spirit, the Paraclete, of John's gospel.[7] Megalomania aside, the cosmology of the Manichaean system is insightful. Following the dualistic cosmology of Zoroastrianism, the Iranian Gnostic cosmology of Manichaeism presents the cosmos as beginning as a dualism of light and dark, spirit and matter, with the goal being to transform darkness into light.[8] In the beginning there exists a realm of Light, ruled by God, also called in Iranian texts *Zurvan,* God Time.[9] God/Time emanates five realms of Light: reason, thinking, insight, speculation, and reflection. To the South exists separately a realm of Dark matter ruled by a king, with also five worlds: smoke, fire, sirocco, water, darkness, each with its own archon.[10] The realm of Dark matter begins to aggressively encroach upon the world of Light, and an admixture of the two occurs, symbolic of the present condition of the world. The God of Light takes a three fold action to counteract this invasion. In the first evocation, from Sophia/Wisdom proceeds the Mother of the Living, who births a Primeval Man. Primeval Man, equipped with a Living Soul consisting of fire, wind, water, light, and *aither* descends to battle the world of Dark matter. His soul is captured and trapped, but this is seen by the Manicheans as a necessary process to begin to transform the Dark matter.[11]

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[6] Kurt Rudolph, *Gnosis: The Nature and History of Gnosticism,* ed. Robert McLachlan Wilson (San Francisco: HarperSanFrancisco, 1987), 335-36.

[7] Rudolph, 335.

The Second evocation is set in motion by the Living Spirit.[12] The archons, who had swallowed particles of light in their encroachment, use both light and dark particles to create the Cosmos, offering a more positive assessment of the Cosmos than in former

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[8] Rudolph, 336.

[9] *Fund Eps*. Frag 5-8. Other names for the Manichaean God include King of the Paradise of Light, most blessed Father, Father of Greatness. Rudolph, 336.

[10] Ibid.

[11] Ibid., 337.

[12] Ibid.

Gnostic systems.[13] A call is sent to the Primeval Man who answers, setting up a model of salvation of call and answer for humanity who will be created in the third act.

In the third evocation, the dark living beings have created the plant, animal, and human realm, the first pair of humans, Adam and Eve, all containing the mixture of light and dark matter. For the salvation of the humans a third envoy is sent, the God of the realm of Light, who lives on the sun and sets up a wheel of deliverance to catch the light particles which ascend. The Milky Way itself serves as an image of the perfect human being[14] which serves as a call below, showing similar elements to earlier Greek cosmologies, such as that of Pythagoras in which the stars in their harmony provide a positive image for meditation. Within the Milky Way are the twelve constellations, regarded positively as the daughters of the God of the realm of Light. Liberated particles ascend to the Moon, which passes them onto the Sun.[15] The starry Cosmos once again becomes positively evaluated acting as a call upwards, a connection to the realm of Spirit and Light. Another connection is that the third envoy, associated with Jesus Splendour, the light of Jesus, is sent to enlighten humans providing saving knowledge.[16] Other messengers have been sent throughout history, Abraham, Buddha, Seth, Enoch, Paul, and Mani as the final consummation, the Holy Spirit.[17] His teachings were referred to as "the teachings of light."[18] The soul is considered light itself in Manichaean texts and is the element to be saved. The soul through revelation or knowledge is strengthened, becoming the spirit.[19] Particles of light are in creation, while particularly in the plants, thus the Manicheans are vegetarians, consuming light particles. This is another particular connection between Light/Spirit and Dark/matter, the ingesting of the light particles in plants.[20]

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[13] Ibid.

[14] Ibid.

[15] Ibid.

[16] Ibid., 338.

[17] Ibid., 339.

[18] Ibid., 331.

The Manicheans provide at least three specific ways to strengthen and connect with the world of Light. The starry heavens which provide a visual calling to the soul, a person as light bearer sends saving knowledge to enlighten the mind, and consuming light particles in vegetation. There are two levels of devotion in the Manichaean religion, the elect and the hearers. Rigorous ethical demands are set for the elect, as well as fasting and vegetarianism keeping themselves morally and physically pure, while studying, seven daily prayers and singing hymns serves to strengthen the soul transforming it to spirit. The religious community provides strength and protection for keeping the soul purified and enlightened. There is a goal oriented motivation in Manichaeism of not only saving the individual, but the cosmos as well, by not torturing or polluting any further the creation which contains the light particles.

Some Pythagorean and Platonic ideas can be identified here as carried forward by the Manicheans. In Platonism and Pythagorean philosophy, the orderly revolutions of the stars are a beacon to the soul, connecting the soul to the Divine realm. In Manichaeism, it is the Light itself which functions as a beacon. For Plato, plants were considered to have souls. In Manichaeism, the light particles in plants feed the human soul. Plato spoke of music which is inspired as capable of inspiring the listener. For both Pythagoras and Plato music reflected the harmonies of the universe. The Manicheans emphasize singing hymns as a necessary devotion to connect the human soul with the divine. For Plato, the eternal realm of Ideas was non-material; for the Manicheans the eternal realm is Light. The Manicheans have carried forward Pythagorean and Platonic ideas and have emphasized the element of Light.

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[19] Ibid.

[20] Ibid, 340-41.

In *Contra Manachaeis*, Augustine opposes the Manichaean view of cosmology, particularly in terms of the Spirit realm and the soul. Augustine's view of God is common to the Neo-platonic view[21] in that God is "everywhere perfect, everywhere present"[22] "without material size."[23] The nature of the soul is likewise, everywhere present throughout the body "not bound by the conditions of space."[24] He defines the soul as having power of perceiving truth, giving unity to the body, with no material extension in space.[25] The perceiving power of the soul he equates with the mind and states that neither mind nor God, not being material, have no extension in space.[26] He is following Aristotle, that only something in Actuality extends and can trigger something in Potentiality. Yet, "for the Manicheans there is extension in space of the Spirit Light realm, which touches the Dark realm." This for Augustine is absurd, for only material things have extension in space.[27] The Manicheans are saying, yes Divine Light extends into the material realm.

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[21] Augustine *Contra Manichaeis* 15.

[22] Augustine *Contra Manichaeis* 15.20.

[23] Augustine *Contra Manichaeis* 15.20.

[24] Augustine *Contra Manichaeis* 16.

[25] Augustine *Contra Manichaeis* 16.

[26] Augustine *Contra Manichaeis* 17.19.

Augustine states that God/Light cannot be of any substance, aerial or ethereal, but rather immaterial.[28] The Manicheans say, according to Augustine, that the region of Light is immaterial and spiritual, while the region of darkness is material.[29] Part of Augustine's definition of matter is that only material substances can interact with each other, following Aristotle.[30] Earlier models were presented in Chapter Two which presented the lighted principle of fiery reason as both in Nature and reflective of the Divine. With Democritus there was the theory of knowledge that objects emanate fiery atoms to our senses informing us of Nature. The Manicheans are saying that Light is both in Nature and Divine. The controversy of Augustine and the Manicheans hinges on how each party defines spirit and matter. The Manicheans are saying Light is immaterial, while Augustine is defining light as material, yet Augustine can speak of God's "divine energies."[31] Pannenberg provides a way out of this controversy by pointing out that light is now understood as both particles and waves, and he states that light understood as waves provides an immaterial definition and a possible answer to the controversy.[32] More on Augustine's view will follow later in this chapter, he is mentioned here to show

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[27] Augustine *Contra Manichaeis* 21.

[28] Augustine *Contra Manichaeis* 15.20.

[29] Augustine *Contra Manichaeis* 21.

[30] "Two regions cannot be joined at their sides unless both are material." Augustine *Contra Manichaeis* 21.

[31] Augustine *Contra Manichaeis* 23.

[32] Wolfhart Pannenberg, *Toward a Theology of Nature: Essays on Science and Faith*, ed. Ted Peters (Louisville, KY: Westminster/John Knox Press, 1993), 40.

how one's definitions of matter and spirit allow or disallow possible connections to the divine. The concept of Light in matter and as a means to connect to the Divine is carried forward by Hermetic literature.

Hermeticism

The Corpus Hermeticum includes eighteen tractates and fragments originating from as early as the second century CE in Egypt,[33] and would have a great impact on the Greek Renaissance in Italy with many copies appearing in Europe in the fifteenth to sixteenth centuries.[34] According to Clement of Alexandria, there were forty-two sacred writings attributed to Hermes. The origin of the Greco-Egyptian religion of Hermeticism dates at least to the first century CE Alexandria, Egypt.[35] It arose out of an amalgamation of Egyptian religion, with its affinity for spells, including medicinal incantations, the emerging new science of alchemy (the precursor to modern chemistry), as well as Jewish and Hellenistic philosophy and mythology. The writings are pseudepigraphically attributed to Hermes Trismegistus, the "thrice-great Hermes" who is a combination of the Egyptian Thoth and the Greek Hermes, gods of wisdom, knowledge, writing, communication, magic, and boundary crossing.

The cosmology expressed in the Corpus Hermeticum is panentheistic. The tractate entitled *Poimandres* (meaning the Shepherd and dated to the fourth century) presents a cosmogony from Divine Intellect who exists as "life and light" and comes in Gnostic fashion from the realm of Absolute Power offering a revelation to the author of the text.[36] According to this tractate, the Cosmos begins as a Light realm of Powers and innumerable worlds.[37] All begins as Light, then there is an animated "downward tending darkness" and with this a copy of the spiritual world is made.[38] Dark matter is simply a movement away from the Light, it is not valuated negatively. A Second Intellect, holy *Logos*/reason descends on the natural world causing spirit, fire, and air to ascend while earth and water begin to move in a circular motion.[39] The circling motion of the *Logos* causes creatures to emerge.[40] The Second Intellect also makes Seven Controllers (not viewed negatively) who circle the world, planets moving in orbits controlling fate. The Divine Intellect, being Life and Light, engenders a human in its image, androgynous. It is a spiritual archetypal human being. The human wants to create too and unites with the natural order (the seven celestial bodies) and seven androgynous beings are created, half immortal and half mortal, consisting of earth, *aither*, water, fire, life and intellect from Light.[41] After some time, all androgynous beings split apart and the creatures populate the earth. Near the end of the text, there is wisdom expressed by Poimandres that to know the true self from above and attending to this nature will lead to immortality, while attending to the fleshly nature will reap death. Those who attend to their soul will receive help from above; those who attend to their bodily nature will receive further promptings from the dark nature of the Cosmos. At the end of the text, the author begins to preach this wisdom to help others to advance to immortality.

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[33] Other Hermetic texts include *the Emerald Tablet,* which according to myth was found by Alexander the Great in the tomb of Hermes at Hebron, though usually dated to the ninth century CE and the *Kybalion*, published in 1912 and attributed to three anonymous authors.

[34] Bentley Layton, *The Gnostic Scriptures* (Garden City, NY: Doubleday, 1987), 451; Rudolph, 25-26. Hermeticism is mentioned in the writings of Plutarch, Clement, Tertullian, Plotinus, Iamblichus, and Porphry.

[35] Layton, 451; Rudolph, 25-26.

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[36] *Poimandres* 2.9. The pseudepigraphic author is Hermes. Layton, 447; Rudolph, 25.

[37] *Poimandres* 2.7.

[38] *Poimandres* 2.8.

[39] *Poimandres* 2.5.

[40] *Poimandres* 2.11.

[41] *Poimandres* 2.17.

The text asserts that the connection to the Divine is dependent upon what one does. This connection is enhanced when the divine nature within each person is nourished. The revelation in *Poimandres* begins with the main character describing his state of being before receiving a revelation. It states that he was in a very relaxed state, and meditating about the nature of the existence of things.[42] The text is advocating that to meditate on the divine or the divine in nature, increases connection to the Divine, as in Philo's thought. In Hermetic literature the mind through the senses is the connection to God. In the Hermetic text *On Thought and Sense*, it states "One cannot think without sensing and one cannot sense without thinking."[43] Mind and body are not divorced, the mind employs the body through the senses.[44] To obtain knowledge *(gnosis)* of God, go through the *episteme*/science of nature.[45] To understand the Mind of God, investigate Nature. Transcendence to the Divine was said to be experienced in the *Poimandres* text because the individual was contemplating and meditating on the essence of Nature.

Nature is the connection to God because the Cosmos is in God; the two are not separate, according to the Hermetic text, *The Key*.[46] The "energies" of God flow from

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[42] *Poimandres* 1.1.

[43] *On Thought and Sense* 2.

[44] *The Key* 9.

[45] *The Key* 9.

[46] *The Key* 14; *On Thought and Sense* 9; *About the Common Mind* 14, 20; *The Cup or Monad* 5.

God throughout Creation,[47] and it is the senses – hearing, smelling, taste, touch, and breath through which this connection is achieved.[48] Learning about nature enhances the connection.[49] Because the All is connected, the movement of the planets influences the Earth, as in Aristotle's thought, and one is advised to gain knowledge of these movements, just as with the other sciences, so as to be more aware of their influences. Investigating the unique powers of plants allows the Hermetic philosopher to provide this plant energy for the promotion of healing the sick to full energetic health. Studying mathematics allows one to understand more fully the formal structure of matter and in turn, to understand the Source of matter, the Mind of God. Throughout the Hermetic Corpus cosmology is described in panentheistic terms. The Cosmos is in God and is described as God's child,[50] while the human being is the child of the Cosmos.[51]

This same enveloping structure is described for the human being: mind is in *Logos*/reason, reason is in soul, soul is in spirit or vital spirits,[52] and spirit is in body, the body is in the Cosmos, and the Cosmos is in God.[53] God's pervasive and penetrating energies flow through the levels of creation to the soul, according to *The Key*.[54] All of creation is described as energized by God, while matter itself is defined in terms of energy.[55] Energy is defined in both terms of power and light, and said to be pervasive throughout nature.[56] In *The Key* it states that God's rays are his *energies*; the rays of the Cosmos are nature; the rays of the human being are the arts and sciences.[57] For Hermeticism, *gnosis* is through the science of nature and also God's energies shining through creation increase vision and knowledge of God.[58] Contemplating this shining "beauty of God" transforms the soul of the individual.[59] God is not considered invisible for God is manifested in nature.[60]

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[47] *The Key* 22.

[48] *Mind Unto Hermes* 12, 22.

[49] *The Key* 6.

[50] *On Thought and Sense* 8; *The Key* 14.

[51] *The Key* 14.

[52] *The Key* 13, 17.

[53] *The Key* 13, 17.

[54] *The Key* 22.

The earliest works of the Hermetica are of a technical nature, concerning the power of gemstones, plants, and astrology,[61] and inform the Hermetic panenetheistic cosmology. A primary text in Hermeticism is *the Emerald Tablet* which first appeared in the West when translated into Latin in 1140 in a book of advice to kings called *Secretum Secretorum*. The short work, *The Emerald Tablet* contains the philosophy of correspondence: "that which is Below corresponds to that which is Above, and that which is Above corresponds to that which is Below, to accomplish the miracle of the One Thing." Carrying forward practices from Egyptian religion, Hermetic rituals include speaking over matter with the belief that the individual, as a microcosm reflective of the world of matter, could convey divine power upon energetic matter. In Hermetic alchemical research and practice, matter was described as going through a transcendence of birth, growth, death, and resurrection, and attended with religious rituals. This positive attitude of nature and the individual as divine and empowered, and science as providing a door to the Mind of God would greatly impact the Greek Renaissance in Italy in the fifteenth century.

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[55] *The Key* 21,22.

[56] *Mind Unto Hermes* 5, 7.

[57] *The Key* 22.

[58] *The Key* 4.

[59] *The Key* 6.

[60] *Mind of Hermes* 22.

[61] Layton, 447.

Hermetic works came to prominence in Italy in 1460 when a monk, Leonardo de Pistolia, found a copy of the Hermeticum in a monastery and brought it to Cosimo de' Medici, who in turn was seeking philosophical works in order to construct a library. Soon after, Hermetic philosophy would appear in the writings of many Renaissance writers with the god Hermes associated with the *Logos* appearing in art from the period.[62] While one such Renaissance writer, Lodovico Lazzarelli espoused the synthesis between Christian and Hermetic truth in the fifteenth century in his work *Crater Hermetis*, by the seventeenth century, the Lutheran priest and theological professor at Heidelburg, John Zimmerman lost his position for teaching Hermetic, panentheistic views. Morris Berman provides many writings from clergy from this era who regarded Hermeticism not only as a heresy, but also a threat to the social order which must be silenced.[63] Because such oppression had became widespread, by the late sixteenth century and certainly by the early seventeenth century, the secret society of Rosicrucians was established in Germany by scientists who sought to express and share their scientific research in the fields of medicine, alchemy, mathematics, astronomy, and astrology based on the philosophy that matter had inherent powers and was inter-connective.[64] Although Zimmerman had gathered together a group of scientists and planned to sail to America to establish a utopian society based on freedom of intellectual ideas, he died before the ship had sailed. His younger contemporary, Johnannes Kelpius brought the group of Rosicrucians to Philadelphia, Pennsylvania where they lived on the outskirts of town, set up a herbarium for the healing benefits of plants, started a public school, and erected the first observatory in America, as well as a meeting house for worship. Kelpius' group named themselves "The Society of the Woman in the Wilderness" which was code for the woman in the book of Revelation who represents true religion who must flee from established religion.

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[62] Lodovico Lazzarelli, Marsilio Ficino, Cornelisu Agrippa, Picodella Mirandola to name a few.

[63] Morrow Berman, *The Reenchantment of the World* (Ithaca: Cornell University Press, 1981), 123.

Experimentation, rather than tradition as in the Aristotelian trajectory was strongly advocated among Hermetic philosopher-scientists in the Renaissance.[65] Experiments on the nature of matter were revealing an energetic power within nature itself (such as Thales research on magnets and amber centuries before) which for Hermetic interpreters showed that the Divine was in Nature. The connection between God/Spirit/Light and the world of matter was that matter itself manifested the divine power of the Light and *Logos* of God. Through the senses and through science one became closer to God. Hermetic societies still exist today, often maintaining the tradition of secrecy carried over from the days of persecution in the seventeenth century.

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[64] By 1616, two Rosicrucian manifestos had been circulated: Fama Fraternitatis RC and Confessio Fraternitatis.

[65] Griffin, *Religion and Scientific Naturalism*, 111.

Neo-Platonism

In Neo-Platonism and Mysticism God is expressed as Light, either metaphorically or actually. The founder of Neo-Platonism, Plotinus (204-270 CE)[66] originally from Egypt, studied under Ammonius Saccas, then founded his school in Rome. He conceived of the Cosmos as a chain of emanations consisting of the One, the Intelligence, and the Soul, with the furthest emanation encountering the material substratum to form the material world. The One is not source, but center of eternal potentiality. The process of formation is dialectical as is the connection of the individual soul to the realm of eternal forms.

The One overflows and radiates Intelligence by reflecting upon itself. Intelligence thinks of the One and brings the Cosmic Soul into existence. The Cosmic Soul thinks of Intelligence and the One and brings life into being. Intelligence contains the seeds of Form, the *logoi spermatikoi*. The *logoi spermatikoi* become part of the Cosmic Soul when it is generated. The seeds constitute the generative principle within Life. The Cosmic Soul has a dual nature of thinking and acting. By bringing its thoughts, *logoi spermatikoi*, into the substratum (*hupokeimenon)* of darkness of primal matter, the material world is generated.[67] The material world becomes a living image of the spiritual Cosmos. Matter is soul infused and as such contains energetic power and intelligence. There is here described a graduated scale of existence, with less and less Light in each lower level.[68]

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[66] See Zeller's distinction between Ammonius Saccas who traditionally has been named as the founder of the neo-Platonic school, and his student Plotinus. Eduard Zeller, *Outlines of the History of Greek Philosophy,* 13th ed. International Library of Psychology, Philosophy, and Scientific Method (London: Routledge and Kegan Paul, 1962), 291-2.

[67] The lowest level, the substratum of primal matter is considered evil, in opposition to the highest level, the One, God. Zeller, *Outlines*, 294-6.

Each individual soul is as a fragmented segment of the Cosmic Soul. Plotinus likens the individual soul to a ray of Light from the Cosmic Soul refracted through the "prism" of matter. As such, the individual soul is always in connection with the cosmic Soul. We are "of" the Cosmic Soul. The soul of the living being consists of a higher and lower part. The higher part of the soul stays in connection with the Cosmic Soul and is in connection with Intelligence through contemplation. To transcend from the lower soul to the higher, one thinks on eternal forms in the realm of Intelligence. This thinking is dialectical, mirroring the dialectical thinking which has brought the spiritual realm into existence. Individual souls think dialectically by considering the differentiation and synthesis of things, alternating between the two, until the principle of unity is reached. In this way, the individual contemplates the nature of the Cosmos in terms of its intellectual Beauty and Unity, and in so doing transcends the material world. The goal is to achieve the highest union by going beyond thinking to transcend thought, wherein one may become "filled with divine Light."[69] Neo-Platonism promotes mystical experience to achieve connection with the One, with this path being less sensual and more ascetic[70] than Hermeticsm in its approach.

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[68] "Light must finally become darkness at the greatest possible distance from its origin." Zeller, *Outlines,* 296.

[69] Ibid., 300.

[70] Porphyry (232-301) a student of Plotinus, incorporated asceticism more than Plotinus in his philosophy. Zeller, *Outlines*, 301.

Mysticism

The word mysticism stems from the Greek *musterion,* a mystery from the divine.[71] Mysticism offers a connection to the Divine that is not overly rational, but instead emphasizes experiencing the Divine. Moltmann states that from the Desert Fathers to Hildegard of Bingen, the mystics "have repeatedly described the closeness of God as "illuminating and flowing waves of energy."[72] In such experiences Light is the medium of the divine essence. This Light through the embodied senses and through education of spiritual matters brings insight, intuition and consciousness. On the nature of mysticism as sensory, Thomas Spidlik states "only *seeing* realities gives one the power to speak about them."[73] While it is typical to discuss mysticism in terms of it being unmediated, Jantzen's study emphasizes the embodied nature of mysticism.[74] This topic will be discussed more fully below in the contemporary science section. The position taken here is that there is no such thing as an unmediated experience. Sitting in a dark room, one is feeling the chair, and sensing the darkness. Second, the mystics themselves describe a movement *through and beyond* the senses, rather than a "non-sensory" experience. Third, each mystic comes with life experiences. Life is mediated. The experiences have molded the individual in a particular way such that the person having the experience is a product of those life experiences. In Chapter Four, how experience in general alters and molds the brain will be discussed. What the mystic experiences presented below show is the range of experience throughout the centuries – whether Greek, Egyptian, Jewish, or Christian – that Light is associated with experiencing the Divine here in the world of matter.

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[71] Robert Ellwood, *Mysticism and Religion,* 2nd ed. (New York: Seven Bridges Press, 1999).

[72] Jurgan Moltmann, *The Spirit of Life: A Universal Affirmation* (Minneapolis: Fortress, Press, 1992) 275.

[73] Thomas Spidlik, *The Spirituality of the Christian East* (Kalamazoo, MI: Cistercian Publishers, 1996), 332.

[74] Grace Jantzen, *Power, Gender, and Christian Mysticism,* Cambridge Studies in Ideology and Religion, 8 (Cambridge: Cambridge University Press, 1995).

Apuleius

From the first century, the Greek writer Apuleius relates a mystical experience for his character Lucius in *The Golden Ass,* who becomes an initiate of the mystery religion of Isis. A primary element of Lucius' mystical experience is Light.[75] In the story prior to this experience, he had undergone depth of suffering, a turning away from his former life, an embracing of a new life as an initiate, ritual cleansing, prayer, vigil, fasting, and a new birth experience. Once Lucius is saved by the goddess Isis through prayer and initiated into her mysteries, he has the following vision that takes him

> "rapt through all the elements. At midnight I saw the sun shining as if it were noon; I entered the presence of the gods of the underworld and the gods of the upper-world, stood near and worshipped them."[76]

His vision is more than a mere vision associated with the mind's eye because he describes movement. He states that he is rapt through all the elements and equates this place to one which holds both the underworld and upper-world gods. This then it is not merely a location associated with the normal three dimensional understanding of space. In this place, distinctions of up and down no longer apply. He seems to be describing going beyond the bounds of space and time. Besides the divine gods, the only other description is that it is a place of Light. The primary elements of this vision are the divine (gods), Light, and a place out of our usual sense of four-dimensional space-time. Below, a scientific analysis of meditative states of consciousness will be outlined. This mystical vision presented by Apuleius offers an experiential description of what James Austin describes scientifically as the highest state of mystical experience.[77]

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[75] Apuleius, *The Golden Ass*, trans. Robert Graves (New York: Noon Day Press, 1997), 278.

[76] Apuleius, 278.

Dionysius the Areopagite (Pseudo-Dionysus)

Pseudo-Dionysus, believed to be a fifth century Syrian monk,[78] promoted a Christianized Neo-platonic cosmology with a mystical approach to the Divine that would set the model for mysticism in the Middle Ages.[79] His works would also experience a great revival of popularity in the fifteenth century Renaissance along with Hermeticism.[80] His cosmology is that of the Neo-Platonist, Plotinus: the All emanates from the One Source. The One, who is the Good, emanates the Intellect, from which arises the World Soul, from this arises matter in interaction with the unformed substratum. Dionysius elaborates further emanations of nine angelic realms between the Divine and the world, forming three triads. Each realm reflects perfection and illumination. In his affirmative theology he describes processions of God's unity from the Immaterial Ideal Forms through the angelic realms to the sensible world.[81] Dionysius employs Divine names such as the Good, the One, and Sun.[82] The way of return to the Divine is not through reason "for then we can only affirm God's attributes," but rather through mystical experience, for only then can we know God in God's essence.[83]

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[77] James Austin, *Zen and the Brain: Toward and Understanding of Meditation and Consciousness* (Cambridge: MIT Press, 1998), 303.

[78] Stanley Burgess, *The Holy Spirit: Eastern Christian Traditions* (Peabody, MA: Hendrickson, 1997), 33.

[79] Ibid., 38.

[80] Ibid., 33.

He describes his *via mystica* or negative theology as three stages: purification, illumination, deification.[84] In the first movement the mind and soul must be purged of thoughts and desires, *going beyond thoughts and senses.*[85] The soul then becomes aware, experiencing in the darkness the divine "impulse" and uniting with it. Illumination, "brighter than all the stars in the universe" pours into the soul.[86] In this Light, God is known. This intimate union is considered **deification** by Dionysius, it is a sharing in the divine essence.

Saint Symeon

St. Symeon, the eleventh century Eastern mystic from Greece was known as the theologian of Light.[87] While Eastern Church theologians often wrote on the illuminating transfiguration of Christ on Mt. Tabor, Symeon would emphasize Light as an essential element in achieving a mystical connection with God. Educated in Constantinople, he became abbot at St. Mamas monastery where he wrote many sermons, discourses, and hymns emphasizing spiritual practices and mystical experiences all conveying Light as the medium of the union between human and Divine.

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[81] Donald Duclow, "Dionysius the Areopagite," in *The Encyclopedia of Religion*, Vol. 4, ed. Lindsay Jones, et al. (Farmington Hills, MI: ThomsonGale, 2005), 2355.

[82] Ibid., 2355.

[83] Burgess, 35.

[84] Ibid., 34.

[85] Ibid., 36.

[86] Ibid., 35.

[87] Maria Jaoudi, *Christian Mysticism East and West* (Mahwah, N.J.: Paulist Press, 1987), 28.

From his embodied mystical experiences he encounters God as Light, and light acts as an agent transforming the soul, leading to deification for the individual. Symeon writes that God is Light Which Never Ends and All Manifestations of God are Light.[88] Experiencing this Light as a pulsating energy, Symeon calls on God's Light to "always shine upon the senses of my soul, to pulsate mystically to your divine words."[89] Light is described as the awareness of the Divine presence and the medium of the invisible spirit.[90] In Symeon's theology, Light forms a bridge "between the visible and invisible."[91]

Connection with the Divine Light produces internal transformation from the "darkened spirit"[92] into the spirit of Light. In Hymn 103 he states "the mind is immersed by your Light. It becomes effulgent and is changed into Light."[93] Symeon advocates many spiritual practices to encounter the divine Light: spiritual education and practice, including moral living, asceticism, contemplation and prayer. In Hymn 1, the Divine presence is likened to the light of the sun, it appears luminous and the entire soul is transformed by divine clarity.[94] The Light Symeon describes becomes indwelling, transforming darkness of the soul to Light and "makes one conscious and symbolizes consciousness itself."[95] It is a Light bringing divine wisdom, but more than wisdom, and going much further than any other mystic or theologian, Symeon regards the transforming power of divine Light as a divinizing process, turning the individual soul into a god.[96] Here he is following John's gospel, where not only Jesus is described as a god, but Jesus refers to the people as gods (Jn 1:18; 10.34). In Symeon's experiential theology, the divine Light has the power to transform all into gods, a very controversial and powerful theology.

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[88] Ibid., 29, 37-38.

[89] Symeon *Discourses* 22.19 cited in Jaoudi, 39.

[90] Jaoudi, 32-33.

[91] Ibid., 30.

[92] Vision 145 cited in Jaoudi, 36.

[93] Symeon, *Hymn* 103 cited in Jaoudi, 37.

Hildegard of Bingen

In the cosmology of the twelfth century mystic Hildegard of Bingen, she envisions fire as a divine element within creation. This fiery power is in creation itself. In *Scivias* she relates a vision of divine Light which enlightens:

> "When I was forty-two years and seven months old, a burning light of tremendous brightness coming from heaven poured into my entire mind, like a flame that does not burn but kindles. It inflamed my entire heart and breast, like the sun that warms an object with its rays. All at once I was able to taste of the understanding of books – the Psalter, the Evangelists and the books of the Old and New Testaments."[97]

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[94] Symeon, *Hymn* 1 cited in Jaoudi, 38.

[95] Jaoudi, 37.

[96] St. Symeon, *Action de Graces* 2: 82-89 cited in Jaoudi, 29.

[97] Hildegard of Bingen *Scivias.*

For Hildegard, divine Light brings wisdom. She wrote two books on nature and medicine, offering numerous herbal and mineral remedies wherein she describes the power of healing to be within matter itself: lavender for clear breathing, nutmeg and chalcedony for clear thinking, linseed for healing burns, jasper for congestion, ruby for headache, onyx for high fever. She wrote of the "greening power" of creation, *viriditas*, experienced through the senses; the living power in nature becomes the regenerative power of the soul. For Hildegard, not only does the divine Light which is experienced through the senses bring divine wisdom, but also regeneration.

Jewish Mysticism

Jewish mystical experiences of Light are related in the Bible, particularly in Ezekiel (Ezek. 1:4, 27-28; 8:1-3; Dan. 2:22; Ps. 104:2), as well as the illuminating essence of the "burning bush" in the call of Moses (Exod. 3). Philo relates the Light of God to the light of the sensible world. Philo writes that all we see is a dim version of the pure light, the Light of God. **The Light of God is the light around us in the world, it is just a dimmer version**. In *On the Creation*, he expresses that visions of Light bring enlightenment "pure and untempered rays of concentrated light stream forth like a torrent, so that by its gleams the eye of understanding is dazzled."[98] In Kabbalism from the thirteenth century, in the Aramaic *Zohar*, meaning Splendor, there are many visions which convey connection with the Divine as Light. In one example, Rabbi Shim'on who has been in a cave for thirteen years, is described by Rabbi Rehumai as metaphorically possessing a radiant pearl: "I gazed at the light of that pearl, issuing like the radiance of the sun from its sheath, illuminating the entire world" (1:11b).[99] Rabbi Rehumai is describing Rabbi Shim'on, body and soul, as radiating a divine Light brought on by years of mystical practice. The mystical connection to the Divine is expressed by the Jewish mystics as light and said to cause illumination for one who has experienced this Light.[100]

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[98] Philo *On the Creation* 57.

Meister Eckhart

Borrowing from Neo-Platonism the concept of the Divine as an overflow of abundance, the German mystic Meister Eckhart (1260-1327) wrote of the Unmanifest and Manifest Absolute, forming one continuous non-dualistic stream. In Sermon 5, he spoke of God's immanence, "He knows God rightly who knows Him everywhere." Creation is described as intimately interconnected to the Divine, an interconnection which could be experienced through depth of soul and not just from an intellectual understanding. Against the overly rational approaches to the Divine, Eckhart emphasized *feeling* as connection to the Divine. He wrote on the stages of union between the soul and God: by *going beyond the world of sensory objects,* a oneness with the Divine could be experienced. Evelyn Underhill notes the paradoxical nature of mysticism evidenced in Eckhart's innovation in language, originating many abstract terms to describe the process and experience of mysticism.

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[99] *The Zohar*, Vol. 1, Pritzker ed. trans. and comm. by Daniel Matt (Stanford: Stanford University Press, 2004).

[100] The reason Rabbi Shim'on was in the cave was due to persecution from Roman authorities; his suffering was said to cause visible sores on his body as well as the illumination from within. *Zohar* 1.11b.

He describes the mystical experience in terms of Light and recurring new birth. This birth "always brings new light...God pours light into the soul which spills over into the faculties and fills the body with radiance." In his commentary on John 1:5, he states, "sinners cannot receive this light for the paths which this light should take are blocked with falsehood and darkness." In the exegesis of John 1 below in Chapter Six, Eckhart's position will be described in terms of Neurology, in terms of light through neural pathways and that no light can travel through if the pathways have not been built up in the brain scaffolding. Even though the Church would condemn Eckhart's teachings as heretical, mysticism flourished in the fourteenth century among secluded religious groups. The experiences of the mystics described above represents a portion of the alternative tradition, despite pressure from the orthodox position, which has continually given its voice to a natural connection experienced between the individual and the Divine. Often this connection is through the senses and a going beyond the senses, and often in terms of Light which brings divine enlightenment.

Conclusion: Interconnectivity as Light

In Manichaean and Hermetic cosmologies Light is not only associated with the Divine, but it is in nature itself, mixed with darkness. Light functions as a bridge to the Divine. In Manichaeism, the soul itself is comprised of Light. In Hermeticism, Nature is Light and divine. The senses are the avenue of connection to the Divine, as well as through thought. For Plotinus, the individual soul is as a fragmented segment of the Cosmic Soul. The higher part of the soul stays in connection with the Cosmic Soul and by extension, Intelligence, through contemplation, while the lower part of the soul tends to become marred down in the material world. To transcend the material world, one contemplates Eternal Forms. This thinking is dialectical, mirroring the dialectical movement (thinking) which has brought the spiritual realm into existence.

With Mysticism, the path is not primarily reason, not primarily faith, but because the Divine is believed to be felt within and throughout creation, connection can be *experienced* through feeling and the senses and then going beyond senses to achieve Oneness. In Hermeticism and Mysticism, matter was understood as not inert, but filled with divine powers. The human being, also with powers including powers of the spoken word and of perception beyond the normal senses was able to connect with the Divine through the world of matter. For the mystics above, the energy and Light in matter reflects the Divine and is a transforming power for the soul.

The Hermetic-Neo-Platonic movement in the fifteenth century would combine the new findings in science, mathematics, alchemy, astronomy, astrology, and medicine.[101] Rather than a strict reliance on tradition, as with the Aristotelian-Thomistic trajectory, experimentation was valued.[102] What the spiritualists discovered was the inherent powers within matter itself. For the spiritualists these were interpreted as "divine powers," whereas in later contemporary science, such powers would be regarded as natural.[103] In the Hermetic-Neo-Platonic trajectory, matter was regarded as having "powers, aim, sympathies, and antipathies of its own."[104] God was in Nature, and Nature in God.[105] The human being was a microcosm, equipped with "a perception more fundamental than sensory perception."[106] Katherine Albinese relates how this tradition would eventually influence the American Transcendentalist movement in which intuition was a valued mode of perception.[107] Griffin relates how the spiritualist tradition would eventually influence England's Royal Society and theologians such as Henri Bergson, William James, and Alfred North Whitehead.[108] For the spiritualist interpreters, the connection between God/Spirit and the world of matter was inherent within nature itself and these findings were centered on their research on the nature of matter as having internal power and Light-filled. The spiritualist movement would not win out in the battle of the cosmologies in seventeenth century Europe. Newtonian science with its mechanistic interpretations of matter as inert would win with its sponsorship from the orthodox Christian Church[109]

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[101] Griffin, *Religion and Scientific Naturalism*, 111-12.

[102] Keith Ward, *Pascal's Fire: Scientific Faith and Religious Understanding* (Oxford: Oneworld Publications, 2006), 10.

[103] Griffin, *Religion and Scientific Naturalism*, 112.

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[104] Ibid.

[105] Ibid.

[106] Ibid. Griffin includes Hermetic and Kabbalistic magic as part of this tradition.

[107] Catherine Albanese, *America, Religions and Religion*, 4th ed. (Belmont, CA: Thomson Wadsworth, 2007).

[108] Griffin, 109.

[109] Griffin, 110f.

The Rise of Orthodox Christianity

Beginning in the second century of the common era, early Christian theologians would reinterpret Greek philosophical conceptions, carrying forward the idea of the apophatic God behind and removed from Creation, while the *Logos* would increasingly be denied its original concept of Intelligent Forms in nature and become associated solely with Jesus. This movement in tandem with the rise of modern science in the early modern era would increasingly give rise to Supernatural Theism. Supernatural Theism is described as belief in a personal deity who creates the world *ex nihilo* and is active in it through interruption of normal causal processes.[110] Normal causal processes would be defined by scientists in the early modern era, who would provide the mathematical laws of nature in mechanical terms, while defining matter as inert. There would be opposition from within the scientific community itself for this definition of matter, but such opposing views would have to wait until the twentieth century. Meanwhile, Supernatural Theism and *Logos* Christology would be the dominant cosmological tradition for centuries, remaining strong even after scientific descriptions of matter became to be increasingly described as energetic in nature.

The Patristic Period: Jesus as *Logos*

The Patristic period began in the early second century after the writings of the New Testament were complete and lasted until the Council of Chalcedon in 451 C.E. While the relationship between Christianity and Judaism would be one of the first issues

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[110] Griffin, 26.

Christian theologians addressed, apologetics would soon emerge as a defense and justification of Christianity to the surrounding Greco-Roman culture. In Judaism monotheism was strong at this time, while concepts such as the Davidic son of God and the messiah would easily allow for followers to identify Jesus as such. In the Greco-Roman culture despite all the philosophical speculations, polytheism was still quite acceptable. Early Christian hymns, as quoted by Paul in his letter to the Philippians (and as that in the Deutero-Paulinist letter to the Colossians) present Jesus as a god. Although he would be considered a new god by the surrounding culture, Mystery cults and hero cults in particular provided the conceptual background allowing for one more god. The later writing of the prologue to the Gospel of John, also considered a hymn and written about half a century after Paul's letter of Philippians, presents Jesus not only as a god, but a *monogenes* god (John 1:18), and distinct from the other hymns, as the *Logos*. The community out of which the gospel of John arose was perhaps not coincidentally the same as that of Heraclitus, Ephesus. For Heraclitus the concept of the *Logos* was employed to express the rational ordering principle within Nature revealing the Mind of the One; for the writer of the gospel of John, Jesus becomes the rational principle of the Cosmos revealing the Mind of the One in human form. In the East, Christian theologians tended to employ Greek philosophy in their apologetics, while theologians in the West did not, thus creating internal conflict within Christianity. Patristic theologians such as Justin Martyr of Rome (100-165), who studied Greek philosophy in Ephesus, Irenaeus, bishop of Lyons (130-200), Origin of Alexandria (185-254), Tertullian of Carthage (160-225), Athanasius of Alexandria (296-373) and Augustine of Hippo (354-430) would represent very diverse opinions to the public about how to interpret the role and person of Jesus.

In Justin Martyr's *Second Apology*, he combined the middle Platonic concept of the transcendent God, the concept of the *Logos* following Heraclitus, Philo and the gospel of John, and Christian ideas of Jesus' agency and obedience creating a Christian cosmology.[111] In this cosmology, God is the transcendent Other described in the apophatic language of the philosophers, the invisible, unknowable, unmovable God.[112] In order to rectify the incompatible concepts of the Absolute transcendence of God with accounts of theophanies of God in the Hebrew Bible, Justin borrowed the Stoic concept of the *logos spermatokos*. He regarded the divine Reason evident in the philosophers, prophets and law as the *logoi spermatikoi* scattered throughout history, with Christ then regarded as the fullness of the *Logos*. For the Stoics, the seeds of divine Reason are throughout creation. For Justin, *logos spermitokos* is scattered throughout history. The order and purpose of the philosophical *Logos* is applied to the Son who fulfills, not only the Hebrew Scripture prophecies, but the Divine "will" for the Cosmos.[113] As obedient Son, the *Logos* is sent to redeem humanity. Justin places Jesus as *Logos* between the transcendent Spirit and the world of matter, as the active principle bringing the Creation into union with God.[114] The divine Reason could be seen in the writings of the philosophers and the Jewish law and prophets, but the fullness of the *Logos* is, for Justin, in Christ. Justin posited Christ as cosmic *Logos* active in Creation, the immanence of God. For Justin, there is a movement from Plato's demiurge who forms a bridge between the Immaterial world of eternal Ideas and the material world, to Philo's *Logos* as divine Reason in nature connecting God and the world, to Christ as *Logos* providing the full connection of the world of matter to the Divine. Plato's concept of the World Soul has been lost as has the divine Reason in matter itself, only a few individuals throughout history carry the *Logos,* with Christ as full embodiment.

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[111] J. Rebecca Lyman, *Christology and Cosmology: Models of Divine Activity in Origen, Eusebius, and Athanasius* (Oxford: Clarendon Press, 1993), 22-25.

[112] Lyman, 21.

[113] Ibid., 24.

[114] Ibid., 23.

Irenaeus would carry forward Justin's view of Jesus as *Logos* and would write against the Gnostics in his defense of the faith. He addressed the Gnostic idea of creation as error, and instead wrote of creation as Good, as a product of "divine will."[115] Irenaeus emphasized not only the transcendence of God, but also the power of God. Creation was creation *ex nihilo*. The power of the Divine was not in Creation, but rather in the *Logos*, which he, like Justin Martyr, equated with the Son, Wisdom, and Second Adam. The Son made God visible and revealed the nature of true humanity made in the image of God.[116] The way to the Divine was not through the Mind to comprehend the Divine Forms, but through the Will in conforming to the image revealed by the Son. Irenaeus is using Paul's concept of imitating Christ found throughout his writings (1 Thess. 1:6; 2:14; 1 Cor. 4:16; 11:1; Phil. 3:17; 4:9; Gal. 4:12). Paul's idea of modeling or imitation is found in Greek tradition, particularly in the models set by the heroes.[117] The Son was regarded as the model for human virtue and as model of one who maintained a close connection to the Divine, while evil or sin was a result of human freedom and bad choices.[118] A strong voluntarist tendency would develop in terms of relationship to the Divine, through modeling of the Son.

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[115] Ibid., 27.

[116] Ibid.

[117] Riley, *One Jesus, Many Christs,* Ch. 3: "The Story of the Hero and the Ideals of Antiquity," 31-60.

Tertullian, writing in the west and considered the father of Latin theology, wrote against Marcionite ideas. He defended the continuity between the Hebrew Bible (which he was the first to refer to as *vetus testamentum*) and New Testament (also, the first to refer to as *novum testamentum*). He was against using philosophy to explicate Christian concepts, stating that philosophy is the work of demons, though he would use Stoicism.[119] It is Scripture which contained the "wisdom of heaven."[120] Bishops who could provide credentials of apostolic succession were considered "transmitters of the apostolic seed" (borrowing this philosophic concept from Stoicism and Justin Martyr). The connection of the Divine to humanity was then through revelation in Scripture, as well as through tradition, particularly apostolic succession. In his cosmology, God made the world out of nothing, through his Son, the Word/*Logos*.[121] In *Adversus Praxeam*, against Praxeas who promoted patripassianism, he said that "the three (Father, Son, Holy Spirit) are one substance (not one person)" and was the first to use the term *trinitas*, threeness, in a Christian context.[122] The soul was believed to be not preexistent as Plato had said, but created new through one's parents. The soul was basically bad due to its origin, but with seeds of good in it. Once the soul was awakened through the Word, a

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[118] Lyman, 36-37.

[119] Tertullian *De Anima* 1.

[120] Tertullian *De Anima* 1.

[121] Tertullian *De Praescriptione* 7.

[122] Tertullian *Adversus Praxeam* 9.

Gnostic concept also found in Paul's writings, it could be healed to call upon God.[123] The Word/*Logos* as Christ was the interconnection between God and the individual, with the word faithfully passed down through apostolic succession, which then had the power to awaken the soul to the divine.

With Justin, Irenaeus, and Tertullian the orthodox position is beginning to be molded and set, particularly in terms of limiting the *Logos* to Christ through Church leaders. While the Greek philosophers had regarded the *Logos* in nature available to the general public as a connection to the Eternal, and while they understood that the body and soul could become polluted and in need of purification, with Tertullian the soul is considered polluted at its conception and only Christ as *Logos* can purify the soul, allowing the only possible connection to the Divine.

According to Eusebius, Origen (185-254) was born in Antioch and became at the age of seventeen principal of Christian instruction in Alexandria, Egypt in the time of great persecution.[124] In his theology there is a triadic hierarchy of hypostases in terms of economy of energy and power.[125] This triad consists of God, *Logos*-Son, and the Holy Spirit, each in subordination to the one before sharing the same substance, *ousia*. God is non-material, without movement, Transcendent Intellect beyond time and space.[126] God is known only to his Son and cannot be known directly by the human mind.[127] God can only be known through human intellect through the Son and the Holy Spirit, not through human intellect alone.[128] The *Logos* is not identified with the Mind of God as in Philo, but is called Wisdom by Origen and is equated with the Son, who is also transcendent and incorporeal. The *Logos* is the law and harmony of the universe; Christ's *Logoi* penetrate matter and inform matter. The *Logos* causes material things to exist by insubstantiation of his *eide-logoi* into a formless material substratum.[129] Once formed into bodies there is being, prior to this in non-being.[130] Soul is a created composite of matter and form; it is not part of matter, there is no world soul as in Plato.[131]

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[123] Tertullian *Apology* 15.

[124] Eusebius, *The History of the Church from Christ to Constantine,* trans. G. A. Williamson (London: Penguin Books, 1989), 182.

[125] Robert Berchman, *From Philo to Origen: Middle Platonism in Transition* (Chico: Scholars Press, 1984), 135.

[126] Ibid., 124.

[127] Ibid., 125.

The *Logos* is equated with the Son. How the Son becomes the *Logos* for Origen is that the soul of Christ in his incarnation was in constant communion with the *Logos* and Wisdom of God. From this union, Christ carries over the properties of the *Logos* and Wisdom, becoming the *Logos* and Wisdom of God. The Holy Spirit is the third hypostasis, made through the Son. Unlike in Platonic and Peripatetic sources, in which the Ideas mediate ontologically and epistemologically between God and the world, for Origen, the Holy Spirit mediates the knowledge of God to the "saints."[132] The Light of the *Logos* enlightens through revelation, like "rays of God."[133] The saints return to God.

Athanasius writing in the fourth century, defended the idea which would later be termed modalism, that God became the person of Christ. If not, he argued, then how could Christ redeem humanity, and Christians would be guilty of idolatry. In "*The Incarnation of the Word of God*" he argues against the view of the Epicureans stating that there must be a Mind behind the Creation or all things would be the same.[134] Against Plato and the Gnostics, he states that matter is from God, from "the non-existent absolute," otherwise God would be a mere craftsman, like a carver of wood, rather than a creator of wood.[135] Having become so defiled, humanity can no longer apprehend God.[136] He lists three ways that humanity could have been enlightened: the works of creation, the law, and the holy prophets, but we have become too dehumanized to see.[137] In *Against the Heathens* he describes a mystical ascent to God possible for those undefiled, going beyond senses.[138] God assumed the form of a human, Jesus, being born of a virgin, was undefiled, and like the rays of the sun, which brighten and enliven and purify, yet remain unpolluted, Jesus, in the image of God, consubstantial with God, gives knowledge of God.[139] Teachings of Jesus as Christ have been handed down and guarded by the apostolic fathers, and it is their faith which serves as model of faith. For Athanasius, God creates the world from the Absolute. God becomes human to redeem humanity having become defiled. Humanity can return to God through senses once healed, and through resurrection.

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[128] Ibid., 126.

[129] Ibid., 131.

[130] Ibid., 131.

[131] Ibid., 134.

[132] Ibid., 128, 135, 140.

[133] Origen *Commentary on John* 2.9

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[134] Athansius *The Incarnation of the Word of God* 1.2.

[135] Athansius *The Incarnation of the Word of God* 1.2,3.

[136] Athanasius *The Incarnation of the Word of God* 3.11.

[137] Athanasisu *The Incarnation of the Word of God* 3.12, 13.

[138] Athanasius *Against the Heathens* 2.2.

[139] Athanasius *The Incarnation of the Word of God* 3.17.

For Augustine (354- 430 CE) God is the Source of all, who created *ex nihilo*. There is a sharp discontinuity between the world of matter and the Divine Source, and states in *The Confessions* that the relationship of God and the world is a mystery.[140] He carries over Neoplatonic thought of the goodness of the world, but unlike Neoplatonism he held that we are "from" God and not "of" God.[141] According to Augustine, nothing in nature produces new forms, there is only repetitions of forms. Repetition of forms is achieved through the germination principles, or potentialities, *supernaturally* implanted by God in each species. There is phylogenesis and not ontogenesis so to speak. Augustine christianized Plato's Theory of Ideas and held that the Eternal Forms are in the Mind of God. Like Philo, Augustine believed that the Mind of God was the source of eternal truths such as mathematics. The human mind was the path of connection to the Divine realm, while the presence of evil in the world is attributed to wrong choices based on free will, a free will only available to the human being and not nature. For Plato, souls are divine and the world of nature is divine, with the avenue of approach to the divine being through Nature. For Augustine, the soul is created through the parents of each individual and is not divine. In *On the Trinity*, attainment of eternal truths is said to be through illumination by God.[142] Only when objects are illuminated by God can we see the eternal ideas in them.[143] Augustine describes an instance of illumination in the *Confessions:* "Thou didst gleam and glow, and dispel my blindness," expressing the connection between the Divine and individual in terms of Light. Later Franciscans would interpret Augustine's theory of illumination to mean that God *infuses* illumination upon the mind itself. Augustine's view considerably narrows and limits the relationship between the Divine and the world, while the trajectory towards supernaturalism and mechanism build as this view becomes dominant in the Christian West.

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[140] Augustine *The Confessions* 11.31.41.

[141] Augustine *Against the Manicheans* 1, 10, 27.

[142] Augustine *On the Trinity* 12.15.24.

[143] Augustine *On the Trinity* 12.15.24.

In Patristic theology, there has been a borrowing from middle Platonism through Justin Martyr's cosmological scheme. For Justin, God is Transcendent, described in apophatic terms, as in middle Platonism, but the bridge between the Divine and humans, the *Logos*, is narrowed, specifically the seeds of the *Logos* are scattered throughout history, not creation, with Jesus reflecting the fullness of the *Logos.* In Patristic theology, the *Logos* would increasingly be constricted to Jesus, rather than in Creation as for the Greek philosophers. For Irenaeus, the Creation was Good, created through the Will of God *ex nihilo*, but it had no inherent power, the power was in the *Logos* as Christ. Jesus, as *Logos*, was model to be followed through the will to connect with the Divine. Tertullian takes the concept of Jesus as *Logos* further, with his *trinitas*, that God, Jesus and Holy Spirit are of the same substance. Wisdom comes through the scriptures and apostolic succession. The soul is not preexistent, but contains seeds of good in need of awakening through the Word. For Athanasius, because the world is created *ex nihilo* by God, we could find a connection to God through it, however we have become too defiled and so God became human as Jesus, and through his teachings, guarded by the Church, connection is possible. For the pure, mystical ascent to the Divine is possible. For Augustine, creation is *ex nihilo*, while the Forms in nature are supernaturally implanted, and only then is regeneration possible, but it is only repetition of forms. The relationship of Divine and the world is a mystery, while connection with the Divine is achieved only through divine illumination of Forms, to be taken by later interpreters as infusion by God. In the writings of the Patristics in general the avenue of connection with the Divine was no longer through Nature as with the Greek philosophers before Philo and Gnosticism. Creation *ex nihilo* was increasingly accepted, while one connected to the Divine through Jesus as *Logos*/Word, through scripture, the teachings of Church, and divine illumination.

The Trinity: Christ's Spirit as Interconnection

The council of Niceae in 325 CE was convened to settle disputes in the Roman Empire regarding the relationship of the Son to God. In 381, the council of Constantinople would address the relationship of the Holy Spirit to the Son and God. Riley summarizes the controversy which led to the Christian concepts of the Trinity.[144] Prior to 325, there were three general concepts with variations of the Son's relationship to God: Modalism, Adoptionism, and Emanationism. In Modalism, a term later coined by Adolph Von Harnack, God appears successively in three modes. God becomes the incarnate Jesus, who then becomes the Holy Spirit. The view stems from Noetus and Praxeas, and later Sabellinus, and then Athanasius. It was popular in Rome around 200-220 CE.

In Adoptionism, Jesus is God's subordinate, an adopted Son because, it was reasoned, he was the only one who could fulfill the law. Son-ship was based on notions such as the coronation of the king of Israel declared to be Son of God as in Psalm 2:7 and

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[144] Gregory Riley, *The River of God: A New History of Christian Origins* (San Francisco: HarperSanFrancisco, 2001), 50-89.

Roman emperors being declared son of God. It also stems from the philosophic view of the Monad as unchangeable. A concept was needed which would intimately connect the unchangeable God to the world of change. In Adoptionism, the Son was not generated by God, but came through the "will" of the Father. Adoptionism is the Arian position, Arius was a student of Lucian who founded a school at Antioch. This position was popular in Syria and Palestine.

The third view was Emanationism, the One God emanates the Two, Son and Holy Spirit, all of the same essence, *homoousia.* In Greek, emanation, *aporroia,* means overflow. Emanationism was the view of Neoplatonism, Origen, Philo and the Gnostics. Although Emanationism would not be adopted in the orthodox Christian cosmology, it did aid in conceptualizations of the Trinity.

The resolution of the first council would side with Athanasius. Athanasius and the Alexandrian school placed emphasis on the divinity of Christ, with his divinity necessary for salvation. The Arian view was considered inadequate by the Council for saving humanity. The Nicene Creed states that we believe Jesus is "God" and "the Son of God," begotten, of the same essence, "light from light." The third article of the creed simply stated, and we believe in the Holy Spirit. At the council of Constantinople in 381, the Holy Spirit would be described as proceeding from God, Lord and Life-giver, to be worshipped and glorified. From this came the concept of the full Trinity, the Godhead as three in One. Using terminology from Neoplatonism, and Origen in particular, Gregory of Nizianzus employed the concept of emanation of "three hypostaseis" from the same *ousia.*[145] The idea of Spirit as "*energeia*" energy, from Paul's writings, helped to conceptualize the idea of the hypostases proceeding from God. The Council of Constantinople added to the Nicene Creed that the Holy Spirit proceeds from the Father. This would establish "trinitarian faith for all subsequent Christian history."[146] At the council of Chalcedon, the "*filioque*" was added: the Holy Spirit proceeds from the Father "and the Son." This offended the Eastern Church, for the Spirit had existed historically prior to the Son's incarnation. In terms of Emanation, the Spirit proceeds from God and the Spirit proceeds from Christ. It is the Spirit of Christ cited in worship and in New Testament references. When Christ is equated with the fullness of the *Logos*, and placed before Creation, then the two views become incompatible.

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[145] William Placher, *A History of Christian Theology: An Introduction* (Philadelphia: Westminster Press, 1983), 77.

In Patristic writings and the construction of the concept of the Trinity, Jesus becomes the Cosmic Christ. He replaces earlier Greek philosophic views which incorporated the *Logos* as the bridge between the Eternal realm and matter. Eternal ideas are in the Mind of God who creates *ex nihilo* and supernaturally implants forms in Nature. Sensing the Divine in nature can no longer come from the side of humanity, but such insight of divine things comes through illumination from the side of the Divine. The human being, no longer possesses an eternal soul *from* the Divine, for it is created at conception and having become so polluted by original sin cannot even ascertain the divine in Nature. Jesus is the only answer, who sets the model of behavior to follow, whose teachings are passed down through apostolic succession, and the Church holds the keys to access to the Divine. This narrow view accumulated gradually over the first centuries of Christianity and eventually became the dominant philosophy in the West, still remaining entrenched.

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[146] Riley, *River of God*, 88.

Supernatural Theism in Medieval Christianity: From Aquinas to Calvin

Thomas Aquinas (1225-1274) studied under Albert Magnus at the University of Paris who promoted Aristotle's teachings and those of Dionysius the Areopagite. Dominican theologian and professor in Rome and Paris, his writings, particularly his *Summa Theologiae* would become the standard for Roman Catholic theologians by the Council of Trent (1545-1563). His Natural Theology is found in his *De Principiis Naturae*. In *On the Principles of Nature*, he identifies three primary principles of Nature: matter, privation, and form.[147] His definition of matter is substance in potential, with prime matter defined as having no matter before it, and has some form, as well as privation. Privation is described as shapelessness and coming to be. Form is that towards which coming to be moves. Nature at its very core is dynamic and filled with potential. He argues in *On the Principles of Nature* that these three are not sufficient to explain coming to be. An agent is required, such as a bronze statue requires an artisan. This agent in nature may be regarded as a non-deliberating agent, such as how a seed grows into a flower. Moving back further however, a First Agent is required for the Source and cause of all matter transforming from potentiality into actuality. This First Agent is God. Adding to Aristotle's four causes, God is described as Actual and Efficient Cause, with efficient cause defined as the principle from whence the movement exists.

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[147] Thomas Aquinas, *On the Principles of Nature.*

In Aguinas' *Summa Theologiae* he incorporates the Dionysian circle, that all things come from God and all things will return to God. With God as First Cause, "all creatures are composed of a 'nature' and a borrowed existence (*esse*)."[148] The soul is defined as the ability or capacity for understanding and free choice. This ability transcends that of the animal realm. He reasons that therefore the soul is that which is defined as created, immaterial, and immortal. The soul is not defined per se as that which gives movement as in the pre-Aristotelian philosophers, it is the potency in matter itself which allows for movement, though all things come from God. While the soul is immaterial and distinct from matter, the "realm of faith is in the strict sense the 'super-natural' realm."[149] Religious truths and values transcend nature, as they are part of the spiritual realm, the home of the soul. The way of return is extrinsically through Christ and the sacraments offered through the Church, and intrinsically through law, virtues, and grace.[150] For Aquinas, "the Fall" hurt humanity in its very nature, we were weakened and lost our "supernatural gifts."[151] To remedy this, the "supernatural life" is ignited by God and the "supernatural gifts of grace and the virtues are conferred through baptism," a sacrament provided by the Church.[152] Revelation is described by Aquinas as an illumination of divine Light. "One's place in heaven" or the return trip back is "determined by the capacity for love developed in this life."[153]

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[148] James Weisheipi, "Thomas Aquinas," in *The Enclyclopedia of Religion*, ed. Mircae Eliade (New York: Macmillan, 1987), 484-90.

[149] Ibid., 488.

[150] Ibid.

[151] Michel Despland, "The Supernatural," in *The Encyclopedia of Religion*, 159-63.

[152] Ibid., 489.

With Thomas Aquinas, the intelligent Forms in nature are brought back in his cosmology, though soul is not considered to be in matter. In his cosmology, Aquinas describes a Great Chain of Being, hierarchically structured with interlocking levels, echoing concepts from Aristotle and middle Platonism. Above is God, followed next by angels with "principalities and powers," the next level is humanity, followed by animals, plants, and then the four elements, air, earth, water, and fire. All levels are connected without any gaps. The animal realm is comprised of matter, with no soul or intellect, directed only by appetites, whereas the angelic realm is comprised of pure intellect. What exists between these two levels is the level of humanity, with the human being comprised of body and soul, matter and intellect.

For Aquinas, truth is derived by faith through revelation, but adopting Aristotle's view, truth is also derived through the eternal Ideas which are permanent and stable in material objects and these universals can be abstracted from the particulars to derive at Truth. There is a borrowing and modifying of Plato's Immaterial Realm and Aristotle's Forms in Nature. There is also a confluence in Aquinas' thought of faith and reason. While the philosopher reasons from sense objects to God, the theologian begins with faith and revelation to arrive at Truth. Knowledge is derived both through faith and through the senses, with an intellectual connection to the Divine achieved through Mind, through revelation and the eternal Forms in objects through the senses.

There would be three primary reactions to Aquinas in the thirteenth to fourteenth centuries: Voluntarism, Nominalism, and Mysticism discussed above. In the

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[153] Ibid.

Voluntarism of John Scotus (1265-1308) Creation is what it is because God chose to make it this way; it is not a reflection of patterns in the Mind of God. God can only be known through faith, not senses. For William of Ockham (1280-1349) Ideals are mere terms, general categories found in particular things, they do not exist in a realm of reality beyond the world, they have no metaphysical status. Again, God can only be known through faith. The world of matter can only connect to the Spiritual through faith. Ockham's limited interpretation of the Platonic Ideals in effect severed theological and philosophical truths (Ockham's razor). Unlike Aquinas' view, God could not be known through sense experience of the world. There were now two separate sets of Truth, one for the theologian and one for the philosopher (or scientist), each kind of Truth was not derivable from the other, and such Truths could theoretically contradict each other, setting up a divide between Religion and Science.

While the Protestant Reformation begins to dismantle the hegemony of the orthodox Catholic Church, it is in the Protestant theology of John Calvin (1509-1564) that Supernatural Theism reaches its zenith. In Calvin's *Institutes of the Christian Religion* God is described as infinite and incomprehensible, creating *ex-nihilo*, hidden yet revealing God's self through special revelation. Because of the Fall, the human being is so utterly polluted by sin, and the senses blinded, that **communion with God can only be achieved through God reaching out to us**. Christ alone is the mediator who reveals "God, and redeems and restores humanity from the fallen state."[154] It is through God's initiation of action, through the supernatural work of the Holy Spirit, and the scriptures illuminated by the Holy Spirit, that union with God and the world may be achieved.

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[154] Brian Armstrong, "John Calvin," in *The Encyclopedia of Religion*, ed. Mircea Eliade (New York: Macmillan, 1987), 31-34.

Then in reciprocation, we may respond in faith for salvation. In Calvinism, there is no other avenue for connection with God. In essence, Protestantism replaces the necessity of the sacraments and teaching through apostolic succession of the Catholic Church, with the scriptures as avenue to the Divine. The connection of the Divine through the scriptures can only be achieved from the other side of the Divide, from the Divine, who supernaturally imparts illumination. The height of Voluntarism and Nominalism would be reached in the Supernatural Theism of Calvinism.

The rise of the Christian tradition has increasingly limited access to the Divine through first Christ as the *Logos* and fullness of the *Logos*, then through the sacraments and teachings offered by the Catholic Church. This is countered by the equally narrow Protestant assertion of the scriptures illuminated by the Holy Spirit as the avenue to Christ, and Christ the only avenue to God. The Greek intuition of the divine Soul in all of Creation and the intelligent principle, the *Logos*, evident in Nature has all been denied by dominant Christian philosophy. The philosophic position of original sin, offered by Augustine and reinforced by Aquinas and Calvinism condemns humanity to such a dire state of pollution and blindness that seeing the *Logos* in Nature and experiencing God and God's Light in creation is deemed impossible. The view of the Divine in Nature, as expressed by Hermeticism and the marginalized Christian mystics has been pushed aside by the limited and arrogant dominance of orthodox Christian traditions.

The Rise of Newtonian Science and its Sponsorship by the Church

In *Religion and Scientific Naturalism,* in the depiction of the three way battle of cosmologies occurring in the seventeenth century, between the Aristotelian-Thomistic tradition, the Hermetic-Platonic-Mystical tradition,[155] and the Newtonian-mechanistic worldview, Griffin draws attention to the influence and motivations that the Church had in sponsoring the Mechanistic view.[156] As was discussed above, with the exception of the fifteenth century spiritualist movement, the distance between the Divine/Spiritual world and the world of matter was increasingly widened, while the bridge between the two was increasingly narrowed. This trend would continue in non-mystical Christian traditions with the rise of Mechanistic science adopted in the seventeenth century. Whereas, early Greek philosophers such as Plato and the Stoics had presented a worldview of soul in matter, giving life, activation, and imbued with intelligence of Form, matter in the Mechanistic model would be regarded as lifeless and inert. The supremacy and legacy of this model would impact biblical interpreters of the modern era in their discussions of the connection between spirit and matter, often rendering this connection in terms of Supernatural intervention upon mechanistic, inert matter.

Below, the rise of Newtonian-mechanistic science will be outlined, followed by biblical interpretations from the modern era which reflect a dualistic worldview of mechanistic nature and supernatural Deity. While Newtonian-mechanistic science allowed for great advances, philosopher of science P.M Harmon points out that philosophical choices were made in favor of mechanistic matter at the expense of organic conceptions.[157] A discussion from Griffin's *Religion and Scientific Naturalism* for the Church's influence and motivations will also be presented. A summary of Harmon's two works *Metaphysics and Natural Philosophy* and *Energy, Force, and Matter* will be presented below conveying the specific options theoretical scientists faced in regard to research into the nature of matter in seventeenth and eighteenth century.[158]

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[155] Discussed above in Chapter One.

[156] Griffin, *Religion and Scientific Naturalism*, 110f, 125.

Furthermore, a transition in language can be identified between the employment of the concept of God/spirit/s in the works of seventeenth century scientists to the concept and terminology of "energy" in the nineteenth century. Seventeenth century scientists employed theological concepts and language to describe the active principle within nature. In time, these concepts and language would be replaced by scientists of the nineteenth century into "force" and "energy" to describe the active nature within matter itself.

The revolutionary scientific discoveries of the sixteenth and seventeenth century scientists would increasingly rely not only on observation and mathematics, but instrumentation to define reality and would greatly impact theological interpretations.[159] In 1530, Copernicus reluctantly published *De Revolutionibus* with its heliocentric model which would, in time, replace the Ptolemaic-Aristotelian geocentric model. The book would remain on the Catholic Index of forbidden books until 1835. Galileo was the first to formulate laws of motion in mathematical terms for falling bodies, while providing a mechanistic concept of nature. The laws of motion state that bodies of motion or rest stay in this state until acted upon, there was no internal activation principle allowed. As Griffin relates in *Religion and Scientific Naturalism*, Fr. Marin Mersenne, an important figure in seventeenth century France, backed Galilean mechanism because it provided laws of nature which he argued would give greater uniqueness to the Christian witness of miracles as supernatural events which defy such laws of nature.[160] Chemist Robert Boyle who was a proponent of Mersenne's explained that matter has no inherent motion, any movement is attributed to God at the beginning or to other bodies in motion which trigger movement.[161] Griffin argues that the Church's promotion of the mechanistic view of nature was to preserve its authoritarian status.[162] The mechanistic view was supportive of the social interests of the ruling elite, whereas power within nature was perceived as democratic and threatening.[163] The dualistic framework of mechanist nature and theistic supernaturalism would be greatly reinforced over the next centuries and still remains prominent today.

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[157] P.M. Harman, *Metaphysics and Natural Philosophy* (Brighton, Sussex: Harvester, 1982).

[158] P. M. Harman, *Energy, Force, and Matter: The Conceptual Development of Nineteenth Century Physics* (Cambridge: Cambridge University Press, 1982).

[159] Harman, *Metaphysics and Natural Philosophy.*

The mechanistic view was explicated further by Rene Descartes. Whereas with Aristotle there was a duality between organic and inorganic substances, in that the later did not have mental capacity, with Descartes a duality of substances was set up between body and spirit, extension and mind.[164] The natural world was considered a machine by Descartes, a mechanistic entity which functioned like a clock. Living things were automata with absolutely no mental capacity. Growth and movement witnessed in nature were consequently mechanical phenomena whose causes were efficient rather than final, meaning the natural world did not possess internal aim or intelligence, no matter how minute. Referring to animals Descartes said, "the greatest of all prejudices we have retained from infancy is that of believing that brutes think."[165] For the natural, mechanistic world, Descartes postulated three laws of motion which explained movement in the natural world, and these laws were regarded by Descartes to be part of the original Divine plan to keep the Cosmos in order. Bodies achieved motion based on the divinely ordained laws of nature, rather than on an active principle within nature, rather than a divine soul in nature. The mechanistic worldview put forth by Galileo, Mersenne, Boyle, Descartes, and later Newton won out against competing worldviews of Aristotelian-Thomistic and the Neo-Platonist-Spiritualist view.[166] This philosophy had the effect of fully removing the divine Soul from immanently functioning within Nature and ushered in the Mechanistic era.[167] As philosopher of science, P.M. Harmon points out, this was a philosophical choice made by scientists and not reflective of all data available.

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[160] Griffin, *Religion and Scientific Naturalism,* 125.

[161] Ibid., 119, 125.

[162] Ibid., 117-18.

[163] Ibid., 117-18.

[164] Samuel Stumpf, *Socrates to Sartre*, 5th ed. (New York: McGraw Hill, 1993), 246.

The problem arose as to how mind and body could interact in a mechanistic framework, if matter were impenetrable.[168] "The unintelligibility of mind-body interaction is usually considered the basic problem of Descartes' dualism, to which he admitted having no solution."[169] Malebranche's solution to the mind-body problem was "occasionalism," mind and matter appear to interact because God causes them to do so.[170] In correspondence with Descartes, Princess Elizabeth of Bohemia raised questions about this issue.[171] Descartes' preliminary answer was that the union of the two in the human body combined the modes of causation of the two.[172] However, a longer answer was provided in his *Passions of the Soul* dedicated to Princess Elizabeth in 1649.[173] In this discourse he explains that the **soul** is situated in the pineal gland, and radiates throughout the body by means of **"animal spirits**."[174] External sensations excite the nerves in the body (he means in terms of parallelism, not electromagnetism) while animal spirits comprised of very fine matter and situated throughout the body in a fine fluid, through slight movement, come in contact with the muscles, causing bodily movement. Descartes' answer was to postulate soul, with animal spirits within a mechanistic conception in the body.

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[165] Quoted by P. M. Harman in *Metaphysics and Natural Philosophy,* 16.

[166] Griffin cites a three-way battle of worldviews in the seventeenth century: scholastic-Aristotelianism, the Neoplatonic-Magical-Spiritual Tradition, and the Legal-Mechanical tradition. Griffin, *Religion and Scientific Naturalism,* 110-16.

[167] Harman, *Metaphysics*; Griffin, *Religion and Scientific Naturalism;* Nancey Murphy and Warren S. Brown, *Did My Neurons Make Me Do It? Philosophical and Neurolobiological Perspectives on Moral Responsibility and Free Will* (Oxford: Oxford University Press, 2007).

[168] Griffin, *Religion and Scientific Naturalism*, 141.

In the late seventeenth century, Isaac Newton reformulated Descartes' three laws of motion in his *Principia* to give them their classical form. He also added to Descartes definition of matter. Whereas for Descartes, extension was the fundamental property of matter, for Newton matter not only had extension, but included the qualities of hardness, impenetrability, mobility (which required contact) and inertia.[175] Nature consisted of particles and bodies. Particles were mutually impelled toward one another and cohered to form bodies. Mechanistic nature, which had been set up by God, ran on efficient causes needing mutual contact for the machine to function.[176] As Griffin states, there was no mental capacity, no goal-directed behavior, no spontaneity in Nature.

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[169] Ibid.

[170] Ibid.

[171] Correspondence to Descartes from Princess Elizabeth, dated May 21, 1643 in *Women Philosophers of the Early Modern Period*, ed. Margaret Atherton (Indianapolis: Hackett, 1994), 12-15.

[172] Atherton, *Women Philosophers of the Early Modern Period*, 13.

[173] Descartes *Passions of the Soul* 81.

[174] Descartes *Passions of the Soul*

Newton realized that there was a problem with this system. How did one account for those elements in nature of which motion and change were observed but no physical contact could be accounted for? How were the particles mutually impelled toward one another? How could one account for gravity, for example? Action at a distance was considered a philosophical absurdity, something akin to magic, which in this scientific age was to be avoided vehemently.[177] Newton declared in a letter to theologian Richard Bentley in 1693 that it was "unconceivable that inanimate brute matter should operate upon and affect other matter without mutual contact."[178] Matter was considered passive and inert, it achieved mobility only when acted upon. There was nothing within matter similar to the Platonic soul in nature, an immanent divine substance which caused activation from within. For Newton, God had set up nature as a machine, with no inner reality or activating principle. This view, however, did not fit the data.

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[175] Harman, *Metpahysics,* 16.

[176] Ibid, 22.

[177] H. W. Turnbull, ed., *The Correspondence of Isaac Newton*, Vol. 3 (Cambridge: Published for the Royal Society at Cambridge University Press, 1961), 254.

[178] Ibid., 253.

Realizing that this mechanistic view was inadequate to what was observed in nature, Newton postulated nature as a duality of passive matter and active "forces."[179] The active forces in nature included gravity, electricity, chemical processes and magnetism. These, interestingly, he attributed to God.[180] In 1675, in his "Hypothesis Explaining the Properties of Light" he suggested *that nature may be nothing but* various contextures of certain "***ethereal spirits.***"[181] In this early modern scientific age, two of the greatest minds, both Descartes and Newton relied on religious concepts such as "God," "soul" and "spirit" to explain the natural world: there was mechanistic nature, which was divinely created and the active principles within and among, including thinking, which were attributed to and described in terms of soul and spirit.

Newton's dichotomy of active principles and passive matter did not sit well with Gottfried Leibniz. Leibniz considered the active principle to be inherent in all substances, one of the alternatives to mechanistic nature that Harmon points out.[182] This active principle he referred to as "force" and it was force which explained both the concept of gravity and the collection of matter into larger bodies. He divided force into the "primitive force" and the "derivative force."[183] Primitive force characterized the nature of substances, the inner power of matter, the active principle. The derivative force was the force by which bodies acted on one another or were acted upon by each other. The later was called the "passive" force or the "living" force which mathematically was analyzed to be mass times velocity squared. Derivative forces were grounded on their relation to primitive forces and to the nature of substances. Leibniz defined substance as primarily being constituted by force not extension as Descartes said. Extension was to be regarded merely as a manifestation of substance, with substances being a force imbued entity. Matter however was not experiencing or subjective for Leibniz. In comparison to Newtonian physics, Leibniz said that force was the most basic concept defining the nature of substances. Philosopher and theologian, Alfred North Whitehead, who would write on a philosophy of nature as organism, in his 1938 work *Modes of Thought*, would say about Leibniz, "there is a book to be written, and its title should be *The Mind of Leibniz*."[184]

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[179] Harman, *Metaphysics,* 29.

[180] Ibid., 25.

[181] Turnbull, *The Correspondence of Isaac Newton,* 365.

[182] Harman, *Metaphysics.*

[183] Harman, *Metaphysics,* 42.

What Leibniz did was to redefine matter to address Cartesian and Newtonian conceptions. He added back in the activating principle (I say "back" because the pre-Aristotelian Greek "physicists" had an active principle in Nature which they called "soul"). Leibniz called this active principle "force" and gave it mathematical precision. The inert "soulless" matter of Descartes and Newton had been given back its soul, its inner activating principle by Leibniz, and this inner activating agency was termed "force." Though the two concepts "soul" and "force" were not necessarily the same, both addressed the active principle inherent within matter itself.

In a series of letters in the 1690s, Leibniz and Johann Bernoulli discussed the nature of substance and force. Both noted that in a collision the transition from an object at rest to one in motion is a gradual one which could be analyzed by the infinitesimals of

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[184] Alfred North Whitehead, *Modes of Thought* (New York: Macmillan, 1938; reprint, New York: Free Press, 1968), 3.

Calculus.[185] Newton's concept of matter as characterized by the essential property of hardness could not allow for the intermediate changes of transition, even though this is how he analyzed movement mathematically. Bernoulli argued that matter needed to be defined as more elastic to allow for these infinitesimal transitions.[186] He also noted that the primitive force in matter, which manifested itself through gradual infinitesimal changes into the derivative force, was a real physical entity and not just a mathematical expression.[187] Matter could not be hard and inert, there must be an internal force.

Immanuel Kant also contested Newton's atomistic ontology, that impenetrability and inertia were the defining properties of matter. Like Leibniz and Bernoulli he regarded forces as characterizing the essential properties of matter, but unlike them did not explicate matter in terms of primitive and derivative forces. Instead he defined matter in terms of attraction and repulsion. According to Kant, matter filled space by its repulsive forces and cohered and maintained distance by its attractive forces. Like Bernoulli, he considered force to be a physical entity existing in nature and reasoned that if a body possessed force when it had been in motion for some time, then it must also have had force when it began to move. For this belief however Kant came under attack by Newtonians. Kant then employed the concept of the ether, a concept based on Newton's "ethereal spirits" as being the underlying substratum which allowed for the means of propagation. And so, in Newtonian physics (though not for Leibniz and his followers) the ether had to be contended with for the next century because matter was **philosophically considered to be inert**.

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[185] Ibid., 48-49.

[186] Ibid., 48.

[187] Ibid., 51-52.

In the early modern era, there had been a transition regarding the activating principle in nature from the Greek concept of soul to the concept of force. For the pre-Socratic Greeks, and Plato and his followers, divine substance (soul) was the activating principle in nature. A transition had occurred with Aristotle and early Christian theologians who had increasingly regarded matter as soulless. With Descartes there was a dichotomy between body and spirit, with nature considered to be devoid of mentality and operating via efficient, mechanistic causes. With Newton a dichotomy was set up between passive matter and active forces; with forces being comprised of ethereal spirits. With Leibniz and Bernoulli, a monism of force explicated nature, force was the defining characteristic of matter, though this view would lose out to the Newtonian model.

In spite of data to the contrary, the scientific community would follow the Newtonian-Cartesian trajectory. Nature was considered non-rational, mindless, and mechanistic, set within a Supernatural framework, even for the scientist/philosophers. The active principle in nature had been brought back in by some philosophers and scientists. For Leibniz and his followers it was in matter itself, for Newtonians the concept of an active ether was necessary. It would take at least another century for mental capacity, albeit of a very minute degree, to find its way back into mainstream philosophers' conception of nature.

The next transition occurred with the change in terminology from "force" to "energy" in the nineteenth century. In 1849, working off of J.P. Joule's demonstrations of the equivalence of heat and work, William Thomson first used the term "energy" as a fundamental principle for the operations of nature. W.J. Macquorn Rankine defined energy as

> the power to produce change including ordinary motion, mechanical work, chemical action, heat, light, electricity, magnetism and all other processes known and unknown.[188]

In the seventeenth century, Newton had said that these phenomena could be attributed to "ethereal spirits" and Descartes used the term "animal spirits" to identify changes within the mind and body, here in the nineteenth century these same phenomena were being called "energy." Energy was classified further by Rankine as actual (kinetic) and potential. (This was a progression from Leibniz' terms of primitive and derivative *forces,* which had progressed earlier in the nineteenth century to Thomson's "statical" and "dynamic" *energy.*) The active principle within nature had progressed since the Greeks from the "soul" to "mind" and "animal spirits" with Descartes to account for a portion of the cause of movement in humans, to "force" with the early modern interpreters to account for the active principle in nature, and now to "energy" in the nineteenth century to account for all processes of change.

The concept of energy would be expanded further by Michael Faraday, James Clerk Maxwell, and H.A. Lorentz in the nineteenth century. Faraday rejected the Cartesian/Newtonian atomism, that impenetrability and extension were the essential properties of matter. He replaced the Newtonian dualism of atoms and forces with a monism of force. As with Leibniz, force was the defining property of matter – particles of matter were in reality "centers of force" according to Faraday.[189] Faraday developed a "field theory" in terms of a "plenum of force" radiating out from matter, envisioned as "physical lines of force," and this force was mediated by the particles of an "ambient medium" comprised of electricity and magnetism.[190] What electricity actually was had not yet been determined. In Faraday's "mechanistic model," all of space was filled with matter and this matter was the means of propagation of the force.[191] Electromagnetic phenomena were produced by the motions of particles of matter, and energy could only exist in connection with material substances, Maxwell reasoned. Maxwell discovered that waves in the electro-magnetic medium had the same velocity as light waves. From this came the unification of optics and electromagnetism. Light and electromagnetism were part of the same phenomenon. The field outlined by Faraday was a "repository of this energy."[192] For Maxwell, electricity was still however due to an unknown cause, not to be understood until the discovery of the electron at the turn of the century.

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[188] Harman, *Energy, Force and Matter,* 58-59.

[189] Ibid., 76-77.

The mechanistic worldview, from its inception in the modern era had always been linked with Supernatural Theism. The Newtonian worldview with its laws of nature and definition of matter as inert, was a philosophical choice. Such a worldview added validity to the uniqueness of miracles associated with the Church. In the seventeenth century, the alternative view, such as that expressed by Leibniz, Bernoulli, and Kant, that matter itself was comprised of internal power was rejected, partly based on theological grounds. Also, the alternative theological view expressed by the Hermetic-Neoplatonist, mystical tradition was a threat to the status quo of the church.[193] It was because miracles were unique, unexplainable in any rational, scientific terms, which was the reason for sponsoring mechanism. Modern biblical interpreters still today express this difficulty of how to explain the connection in a mechanistic/supernatural framework as will be examined below.

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[190] Ibid.

[191] Ibid., 82-83.

[192] Ibid., 83.

[193] Griffin, *Religion and Scientific Naturalism*, 117.

The dominant tradition, whether from the early orthodox Christian Church or the Mechanistic model sponsored by the Church, has systematically pushed aside and silenced voices which express God's divine power, Light and Intelligent principle within Nature itself. Yet, since the sixth century BCE, from the early Greek physicists to the *Logos* philosophy of the Stoics to Manichaean and Hermetic philosophies and mystics across the centuries, the Divine is in creation expressed in various ways as energy, Light, and Intelligence. The connection for these "alternative" traditions between the Divine and the world of matter, is that matter itself is divine. While the following chapter will present new conceptions of matter from contemporary science which describe matter as energetic, light-filled, and in-formed, a few examples are provided below which address the problem of the connection of the Divine to the world of matter from the perspective of a mechanistic worldview set within a Supernatural Theistic framework.

Modern Biblical Interpretations reflecting Supernatural Theism in a Mechanistic Framework

Modern biblical interpretations quite often reflect the dualism of Supernatural Theism in a Newtonian-Mechanistic worldview. Explanations of how the Spirit interacts with *inert* matter are inadequate at best and quite often absent all together. Answers given are simple statements that the phenomenon is "supernatural," "gift of the Spirit" "mystery" to be retained. What is offered below are examples of the tendency to render the Spirit/matter interconnection in "supernatural" terms.

For the focus texts to be exegeted in Chapter Six below, the following interpretations are offered, reflecting the wider tendency to label the connection or action of Spirit on matter in supernatural terms, or to say nothing at all. For example, commenting on Genesis 1:1-2:4a. Westermann states that this is a scientific text, but states that the Priestly writer "tries to preserve the mystery" of God.[194] Von Rad likewise sees this as a scientific text, and states that according to this text we cannot seek *direct* relation to God in the realm of nature.[195] Philo regarded relation to God as through the constituents of nature, specifically through the *Logos*/Reason witnessed in nature, though he would distinguish between direct relation to God through Mind and connection through Nature, with the first way regarded as superior.[196] Moltmann takes Gen 1.2 seriously, that "the Spirit hovered over the waters." "This explanation was seldom heeded in theological interpretation," making the same observation that is made here, and states, "but it was intended to point out that the divine Spirit is the creative power and the presence of God in his creation."[197] A description of the interconnection between Spirit and Matter need not stop merely with supernatural explanations, but with matter understood in non-mechanistic terms and a panentheistic model of the Divine, more natural explanations will be sought.

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[194] Westermann, *Genesis*, 174.

[195] Rad, 66.

[196] Philo *On Rewards and Punishments 43.*

[197] Jurgen Moltmann, *God in Creation: An Ecological Doctrine of Creation: The Gifford Lectures 1984-1985* (Southampton: Camelot Press, 1985), 99.

For Genesis 37:1-11, the interconnection of Spirit to matter in terms of divine dream communication, Brugemann states that "the dream is a gift from God" and is "God's hidden way" and "the narrator sets a dream to guide the whole story" yet, states "that it will do us little good to investigate the phenomena of dreams."[198] It will do us little good to investigate the connection? A survey of commentaries[199] reveals little interest in investigating the connection between the Divine and the world through the medium of dreams.

In commentaries on the double share of the spirit for Elisha and the ascension of Elijah in 2 Kings 2:1-18 the following are silent on the issue of the ascension or even mobility of Elijah in 1 Kings 18: Montague, Shoemaker, Schweitzer, Moule, Long, Moody, Cogan and Tadmor. Regarding Elisha's receiving of the double share of the spirit, which is stated in the text to be dependent upon what Elisha sees there is no investigation offered as to how this change comes about, nor is it rarely even stated that what one sees may have bearing on the state of the spirit. There is only silence (Long, Montague, Moule, Schweitzer, Moody, Cogan and Tadmor), without any epistemological discussion of the connection in terms of the sense of sight and the affect on the mind/spirit.

In a unit on the connection between divinely inspired prophecy and music, 2 Kings 3:4-27, Long describes this phenomenon as having "its origin in the mysterious rush of supernatural power."[200] Cogan and Tadmor describe the event as "the recurring ecstasis which took hold of the prophet under the influence of music."[201] They label the phenomenon as "possession" based on Wilson's study in *Prophecy and Society*.[202] For Wilson, possession is a cultural theory that explains that contact takes place between the supernatural and natural worlds.[203] He states, possession means that the body has been entered by a spirit or deity.[204] When the individual speaks, it is the spirit speaking through the individual's body.[205] The individual's identity may be temporarily lost as the spirit replaces the individual's soul.[206] The text however states that "the hand of God came upon Elisha," there is no possession cited in the text. In commentaries, a discussion of music and its formal features, that is how the Forms of music itself might impact the listener is not offered.

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[198] Brueggemann, *Genesis*, 301.

[199] Brueggemann., *Genesis;* Westermann, *Genesis;* Lowenthal, *Joseph Narratives;* Rad, *Genesis;* Coats, *Genesis*.

[200] Long, 42.

In 1 Corinthians 3:1-9 Paul describes stages of spiritual development. In commentaries (Conzelmann, Montague, Moody, Orr and Walther) the activity of God is emphasized, though certainly not described, while the human efforts and effects are de-emphasized in the transformation of the person to spiritually maturity, even though the majority of the text of 1 Corinthians 3:1-9 is devoted to this.

In James 5:13-18, the text describes healing facilitated by the elders, who are called upon to pray over the sick. While miraculous healing is well attested in both the Hebrew Bible and the New Testament, there is a tendency towards silence on the topic of the efficacy of prayer on physical healing, or to interpret the healing in terms of emotional healing, over physical healing.[207] Specifically, Moo states that the relationship between faith and healing is "not causality but the will of God."[208] This tendency in interpretation reflects a Newtonian mechanistic framework for which matter is defined as inert, it cannot be acted upon by the mind/spirit. In her commentary on the Epistle of James, when Laws states that "James certainly believes in the efficacy of prayer"[209] she does justice to the verse, but her statement implies "but we do not believe." She is reflecting the mechanistic worldview as described above in the battle of the worldviews, in which mind/spirit have no power on matter and matter is inert with no power of its own. When Tamez states in her commentary on James 5:14 that "prayer strengthens our bodies"[210] she speaks volumes with one statement, in contrast to the many voices of silence on the interconnection of Spirit and matter.

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[201] Cogan and Tadmor, 44.

[202] Ibid.

[203] Wilson, 34.

[204] Ibid.

[205] Wilson, 35.

[206] Ibid.

In John 1:18, the text relates that the interconnection of Christ as *Logos* and those who receive the word are transformed into Children of God. Commentaries tend to describe transformation of the individual in terms of "an act of God." Haenchen states that "how people become children of God is through an act of God." [211] For Sanders, it is "a direct intervention of God,"[212] for Lightfoot, a gift of God,[213] for Bruce, faith in the name of Jesus and in the testimony about him.[214] For Witherington, the transformation is achieved through Christ's resurrected status.[215] The question remains as to how such a transformation is achieved.

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[207] Brosend, *James and Jude,* 160-161; Hartin, *James,* 275; Moo, *Letter of James,* 245; Tasker reflects the traditional view that the ability to physically heal through prayer was an ability for the Apostolic Age. Tasker, 131.

[208] Moo, 245.

[209] Laws, 234.

[210] Tamez, 71.

[211] Haenchen, 118.

[212] J. N. Sanders, 78.

It is in the nature of commentaries to thoroughly examine virtually every verse. When there is so much silence from so many voices specifically on verses that discuss the interconnection of the Divine Spirit upon the natural world, the topic calls for investigation. While stating that the interconnection is "supernatural" may indeed be the case in a Mechanistic-Supernatural framework, it begs the question, *how* is the connection achieved? Answers as to how Divine Spirit operates on matter will be the topic of Chapter Five, while Chapter Four discusses recent findings from contemporary science in terms of the nature of matter itself. The alternative traditions which have presented matter as energetic, light-filled and in-formed will find resonance in contemporary research on the nature of matter itself, which in turn will allow for a broader, natural connection between Spirit and matter.

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[213] Lightfoot, 83.

[214] Bruce, 39.

[215] Ben Witherington, *John's Wisdom: A Commentary on the Fourth Gospel* (Louisville: Westminster John Knox Press, 1995), 57. George MacRae, 220.

CHAPTER FOUR

CONTEMPORARY SCIENCE AND INTERCONNECTIVITY

Introduction

Radical new discoveries in science in the twentieth century presented new cosmological models which would as in previous eras call for alternative interpretations of how the Spirit interacts with the world of matter. One of the most dramatic scientific findings concerned the nature of matter itself. Electromagnetism, Atomic Theory, Quantum Theory, Relativistic Atomic Theory, Astrophysics, String Theory, Chaos and Complexity Theory would each alter, but not replace mechanistic understandings. After centuries of biological research, the modern field of Neurology emerged in the twentieth century and this too informed the discussion of Spirit and matter, and how Spirit interacts with mind. In tandem, the field of Science and Religion emerged in Theological studies as a distinct area of research in the twentieth century. The connection between Spirit and matter will be examined below in light of research from these fields. Following this, theological works which incorporate these new insights in terms of the interconnection between God/Spirit and the material world will be reviewed in Chapter Five.

The Nature of Matter from Contemporary Science Perspectives

A major turning point in Physics came at the end of the nineteenth century in regard to how matter was defined. The Newtonian concept of matter as hard, impenetrable, and in essence, lifeless would experience major modification. In his "electron theory" of 1895, H.A. Lorentz in *Versuch einer Theorie der electrischen and optischen Erscheinungen in betwegten Kurpern* conceived of matter not as hard, impenetrable spheres but comprised of atoms with charged electrical particles called electrons.[1] This theory would then explain electrical action as the forces exerted between particles.[2] The positing of the "electron" would be used to explain light phenomena.[3] Light waves were described in terms of the vibrations of electrons, according to Lorentz. He also defined inertia and mass in electromagnetic terms and he denied the constancy of mass, a fundamental principle of Newtonian mechanics.[4] The electromagnetic field was a result of the motion of these particles. Besides the force of gravity in Newtonian mechanics, there was now the electromagnetic force.

Within a few years after Lorentz' theory was put forth it was confirmed with the empirical discovery of the electron.[5] Occurring within nature were minute particles, bits of matter, which had their own activating power. Matter was energetic and Newton's so-called "ethereal spirits" were *in matter* itself and *in the processes between matter* in motion. By 1900, electrodynamics rather than Newtonian mechanics began to provide the conceptual framework for understanding nature, a framework which held that an activating principle was indeed in the most minuet bit particles of matter.[6] What gave matter its animation was "energy," a term which has been shown in the previous chapter to have evolved in Physics from the Greek's concept of divine substance.

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[1] P. M. Harman, *Energy, Force, and Matter: The Conceptual Development of Nineteenth Century Physics,* Cambridge History of Science Series (Cambridge: Cambridge University Press, 1982), 118.

[2] Ibid.

[3] Ibid.

[4] Ibid., 119.

[5] Ibid.

[6] Ibid.

In 1905, Albert Einstein put forth his theory of relativity from which arose his famous equation, energy equals mass times the speed of light squared, which showed how mass was energy.[7] His field theory for space, time, and matter, or the Special Theory of Relativity, showed the interdependence of mass, space, and time. The gravitational force exerted by mass curves space and determines the time dimension for the field. This implies that time is also curved and that time as we measure it in our world is dependent upon the mass of the earth. Max Planck had shown earlier that heat radiation of black body radiation was not emitted continuously, but rather in packets of energy, or quanta, as Einstein called it.[8] Planck's deductions on thermal equilibrium would lead to a full quantum theory.[9]

Before Ernest Rutherford's research in 1910, the atom was considered hard and impenetrable from Newton's description. What Rutherford's studies showed in 1911 was that the atom was comprised of mostly space, with a nucleus about 10,000 times smaller than the atom itself.[10] The electrons circled around the nucleus bound to it by electric force. The strong nuclear force of the atomic nucleus would be discovered shortly after

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[7] Ibid., 154; Lawrence Fagg, *Electromagnetism and the Sacred: At the Frontier of Spirit and Matter* (New York: Continuum, 1999), 28.

[8] John Barrow, *The Book of Nothing: Vacuums, Voids and the Latest Ideas About the Origins of the Universe* (New York: Pantheon, 2000), 201.

[9] Ibid., 203.

[10] Gordan Kane, *The Particle Garden: Our Universe as Understood by Particle Physicists* (Cambridge: Perseus Publishing, 1995), 31.

Rutherford's discovery in 1911.[11] The nucleons, the neutrons and protons of the nucleus, were discovered to move at even higher rates of speed than the electrons. Whereas the electron traveled at about 600 miles per hour around the nucleus, the nucleons traveled at approximately 40,000 miles per hour.[12] Matter at its very core is not inert, but rather filled with vibrant motion.

In the early twentieth century, Paul Dirac combined Maxwell's theory of electromagnetic phenomena, theories of relativity, and quantum theories of Max Planck to arrive at the theory of quantum electrodynamics, or QED.[13] Because subatomic particles within the nucleus travel at high speeds, relativity theory was needed to address atomic theory further. Relativistic Atomic Theory was addressed by Richard Feynman, Freeman Dyson, Julian Schwinger, and Sin-itiro Tomonaga who put the final formulations onto the QED theory.[14] Feynman's mathematical approach to QED was to treat quanta as particles, while Schwinger and Tomonga expressed the quanta in equations as waves.[15] According to QED, the electromagnetic force is carried by photons, which behave as both particles and waves. Photons are the particles which make up light.[16] The electromagnetic force emitted by atoms gives rise to the force between atoms that leads to the formation of molecules.[17] While the overall charge of an atom is zero, **the electron at the edge of an atom provides the linkage to other atoms** to build molecular structure by **exchanging photons, the electromagnetic carriers**, with nearby atoms.[18] **Light is exchanged between atoms to create matter.** All of matter depends upon this electromagnetic interaction to form molecules and more complex organic structures of matter.[19] Also, all matter emits electromagnetic signals. What Atomic Theory and Quantum Electrodynamics reveal is that the nature of matter is energetically dynamic at its most fundamental level, and interactive, rather than impenetrable and inert as in mechanistic models. **Matter is at its very core photonic light.**

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[11] Ibid., 37.

[12] Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism,* 4th ed. updated. (Boston: Shambhala, 2000), 70.

[13] Fagg. 43.

[14] Ibid.

[15] Ibid.

[16] Kane, 202.

[17] Kane, 62.

In the Standard Model of particle physics, there are over two hundred elementary particles while all are energetic in nature.[20] These can be categorized into twelve indivisible particles foundational for matter, six types of quarks and six types of leptons (with additional antimatter quarks and leptons).[21] There are two main classes of particles: fermions and bosons.[22] There are two types of fermions: leptons and quarks. The difference between quarks and leptons is that while the quarks participate in the four forces of nature (gravity, electromagnetism, the weak and strong force), leptons do not participate in the last force. The most familiar lepton is the electron, secondarily is the neutrino, while the muons and taus are synthesized in the lab. Bosons are the force carriers for subatomic particles. There are five types of bosons: photons, gluons, weak guage bosons, while the higgs boson and the graviton are still considered theoretical. The photon carries the electromagnetic force. The gluon carriers the strong nuclear force. The weak guage bosons carry the weak nuclear force. The weak force triggers radioactive decay transforming the neutron into a proton, or vice versa, triggering the release of an electron. The graviton is theorized to carry the force of gravity, while the higgs boson is theorized to carry mass. Bosons are constitutive of every atom and are the energetic force carriers of the subatomic world, theoretically carrying all four forces of nature.

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[18] Ibid., 61.

[19] Ibid.

[20] Ibid.

[21] Fagg, 30.

[22] Kane, 62.

Quantum Electrodynamics also provides a new description for the vacuum. The **vacuum** could no longer be considered to be void, in actuality it was **alive with "evanescent" particles of light,** mostly electrons and positrons, materializing into and out of existence continuously.[23] Paul Dirac had first postulated the existence of the anti-electron, the positron. This antimatter was discovered empirically two years later and has been reproduced countless times in laboratories, though antimatter remains unstable. This evanescent field is today called the Zero Point Field, due to the fact that even at absolute zero, it is still filled with electrical activity.[24] This field from the Big Bang is a sea of energetic light activity that constantly surrounds us and interacts with us.[25]

The standard model from Astrophysics of the beginning of the Universe is the Big Bang Model. According to this model, about 15 billion years ago all matter and space originally was condensed as a hot gas of energetic particles in a tiny region and expanded outwards, with all forces unified.[26] The particles, leptons, quarks, and bosons collided and then reacted, spreading outwards while the gradient change allowed for cooling producing heavier elements.[27] Quarks combined to produce protons and neutrons. A hydrogen atom consists of one proton and one electron. It was under the extreme environmental conditions of the Big Bang that gravity fused together hydrogen atoms so tightly that helium emerged, consisting of two protons and two electrons. According to particle physicists, after a while "the nuclei of the universe were ninety-three percent hydrogen and six percent helium, with a plethora of photons and neutrinos resulting from annihilations and decays of other particles."[28] These photons are the microwave background radiation, or the effervescent field described above. According to Einstein's theory of gravitation, anything with energy will attract other things gravitationally. The neutrinos provide gravitational attraction for all particles. Gravitation slows down the expansion. The four forces have emerged with the cooling process. The universe begins together as One energy source and though it expands, it remains fundamentally connected through the interactions of the electromagnetic force which binds together atoms to form molecules to eventually form stars and galaxies and life.

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[23] Fagg, 52.

[24] Lynne McTaggert, *The Field: The Quest for the Secret Force of the Universe* (New York: HarperCollins, 2002), 18.

[25] Ibid., 66.

In the early 1920s, the Russian physicist Alexander Friedmann proposed the model of the expanding universe even before Edwin Hubble's discovery of the Red

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[26] Kane, 154, 156.

[27] Ibid., 155.

[28] Ibid.

Shift.[29] According to Friedmann, the expansion of the Universe is not from a center, but from all points. The expansion of the Universe looks identical in whatever direction we look, and this is true if we are observing the Universe from anywhere else. Hubble's discovery of the Red Shift in all directions, rather than a Blue Shift in some, confirmed Friedmann's concept that the Universe expands from all points. Matter contains light particles as described above, however between the matter in galaxies and clusters physicists posit the existence of dark matter. Dark matter, possibly consisting of neutrinos, according to Stephen Hawking, cannot be seen but can be detected by its gravitational pull which slows down the rate of the expanding universe and may account for ninety percent of the mass of the universe.[30] Contemporary cosmology also mathematically attests to additional dimensions beyond our four dimensional space-time. Today, for String Theory there are believed to be eleven dimensions of reality.[31] Beyond our four dimensional space-time reality, exists worlds consisting of antimatter, the particles Paul Dirac theorized. According to String Theorists, each universe is created by a string of quantum matter that vibrates with a different frequency.[32] These other worlds coexist and interpenetrate our own yet, the electromagnetic and nuclear forces of one world will have no effect in another.[33]

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[29] Stephen Hawking, *A Brief History of Time,* updated and exp. 10th anniv. ed. (New York: Bantam Books, 1998), 42.

[30] Ibid, 48, 121, 200.

[31] Brian Greene, *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory* (New York: W.W. Norton., 2003).

[32] F. David Peat, *Superstrings and the Search for the Theory of Everything* (Chicago: Contemporary Books, 1988).

[33] Ibid., 32.

Historically, the philosophical concept of the *Logos*/Reason was used to describe the Form and Intelligence in matter. In contemporary science, matter achieves stability of "Form" due to the electromagnetic energy within matter which forms bonds and the system reaches a stable energy state, while the structure of the form is based on mathematical relationships and function, the intelligent aspect in Nature. The environment is a crucial influence determining whether form is maintained or if instability of form will occur brought about by an influx of energy.

Regarding the basic form of matter, in 1913 Niels Bohr, a student of Rutherford's, provided the model of the structure of the hydrogen atom. Surrounding the nucleus consisting of one proton and one neutron, were *definite and discrete electron orbits*. Sounding somewhat similar to Pythagoras' theory of musical intervals, the energy states of the electron orbits were found to be multiples of whole numbers integers. According to the Pauli exclusion principle, a shell is filled determined by the equation 2n squared (with *n* being the number of the shell). For any atom, the first shell is considered filled with two electrons, the second shell is filled when there are eight electrons, the third, with thirty-two, etc. Molecules form when electrons on the outer edge of atoms seek to fill orbitals from another atom. An electron in the outer orbit of one atom couples with a "hole" in another atom's shell creating an ionic bond. Once the orbital is filled the atom does not seek a higher energy state and the form is stabilized. There is a drive in nature to fulfill Form, while the form is mathematical in essence.

Matter is comprised of three basic forms or states: solid, liquid, and gaseous. What causes a system – whether gaseous, liquid, or solid – to become unstable, losing its form, is the external environment and in particular whether there is a temperature gradient.[34] An influx of heat or matter causes a negative flow of entropy into a system (i.e., positive order) which is countered by a transfer of entropy (disorder) to the outside. When there is no significant gradient between the system and the environment there is no intake of energy and no buildup of a new order, or new form. The form of matter is in a state of "inertia" when its environment is stable. Inertia of form is due to electromagnetic bonding and whether the system has reached its stable energy state for that system, otherwise it seeks to fulfill form. Meanwhile, the electromagnetic forces within matter are quite vibrant and non-inert. The Form of matter destabilizes however when the system experiences an onslaught of energy. One of the most stable forms in matter is the diamond, which is comprised of extremely rigid covalent electromagnetic bonds forming an internal repeating, symmetrical, geometric structure. The bonds will hold for extremely high temperatures, however the bonds will break when exposed to temperatures in excess of 7,100 degrees Fahrenheit. This causes the solid diamond to change into a molten liquid form. At 8,720 degrees Fahrenheit, liquid diamond reaches the boiling point and turns into the new form the gaseous state. New Forms can emerge and only emerge in the presence of new energy.

In the early beginnings of the universe only hydrogen atoms existed, consisting of one proton and one electron each. Due to the pressure of extreme gravity exerted by these atoms and the high temperatures of the Big Bang, hydrogen atoms fused together producing **a new form** of matter, the helium atom, consisting of two protons and two electrons each with an excess of energy given off from the fusion process. From this, and again due to the extreme environmental conditions, **new forms** were produced, such as lithium atoms (three protons and three electrons), carbon atoms, nitrogen and oxygen atoms. Heavier atoms such as iron were created in supernovas. When there is an onslaught of energy, new forms can emerge.

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[34] Ilya Prigogine and Isabelle Stengers, *Order Out of Chaos: Man's New Dialogue with Nature* (New York: Bantam Books, 1984), 139.

The process moves forward to produce life. When carbon and nitrogen come together with the added energy of heat, in particular as that found in the thermal heat vents in mid-level ridges in ocean valleys, amino acids are produced. Again, with an influx of such energy, amino acids come together to form proteins. Proteins electromagnetically bond together in a circular envelope to form into a cell. A nucleus then forms inside the cell. Structure depends upon function. The circular configuration serves to protect the string of proteins, and then the cell's nucleus. Form arises based on what is best for the function of survival and stability of form is achieved in the influx of environmental energies.

In contrast to mechanistic science, in contemporary science matter conveys **information.** Research in the field of Information Theory and Quantum Physics shows that elementary particle states are actually better information storage repositories than computers.[35] Matter, nature at its most basic level, is not only comprised of the energy of light, but also intelligence. One type of intelligence conveyed in matter is the form of matter itself. **That matter has form at all means it is literally "in-formed."**[36] When molecular bonds occur, one form of matter has taken in another form of matter to achieve a higher form. From the field of biology, Harold Morowitz at George Mason University points out that matter even before the rise of organic life is "informatic."[37] Bits of matter behave as if they have knowledge of each other's presence.[38] For example, the presence of adenosine in cells allows for energy storage and also signals energy transfer, which indicates an information-rich characteristic.[39] Also, adenosine is one of the four bases of DNA and RNA, constitutive of a genetic code.[40] The information in DNA is copied into RNA, while the RNA's information is used to make proteins.[41] A basic transfer of intelligence in plants is the process of photosynthesis. In photosynthesis – literally the coming together of light – solar energy is taken in by plants and converted to chemical energy. Plants will turn toward light to better capture the sun's photons which are then used for its growth and transformation, the blossoming into a flower, a new form. Plants contain light from the sun which is then consumed by animals and humans and converted into chemical energy by the matter in the body for sustenance and growth. These basic processes reflect the information processing of matter leading to higher Forms.

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[35] Barrow, 299.

[36] John Puddefoot, "Information Theory, Biology, and Christology," in *Religion and Science: History, Method, Dialogue*, ed. W. Mark Richardson and Wesley Wildman (New York: Routledge, 1996), 312.

Another type of intelligence is problem solving. In recent years the discovery of the Higgs boson suggests that particles of energy at the quantum level show signs of intelligence. This particle, dubbed the "God particle" actually adds mass where mass is needed in quantum reactions.[42] Even quantum particles can anticipate a possible interaction with another particle and change course or emit a photon as if a collision had occurred.[43] There is a form of intelligence all the way down the evolutionary scale to the smallest bits of matter, with the electromagnetic energy of light critical for all processes in nature.

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[37] Harold Morowitz, *The Emergence of Everything: How the World Became Complex* (New York: Oxford University Press, 2002), 73.

[38] Ibid.

[39] Ibid.

[40] Ibid.

[41] John Postlethwait and Janet Hopson, *Explore Life* (Pacific Grove, CA: Brooks/Cole – Thompson Learning, 2003), 47.

From the field of Bio-chemistry, nature at its most basic level also reveals an emotional side. Recent research shows that molecules actually receive and convey emotion. Research from microbiologist Candace Pert on neuropeptides shows that organisms experience emotion even before the brain can register a reaction.[44] She also documents the past avoidance of the concept of emotion itself in scientific research,[45] but as contemporary research reveals, emotion also is a constituent of matter. Larry Dossey cites several experiments on microorganisms responding merely to the mental intent of investigators, whether the intent is purposely negative or positive.[46] Research by Bernard Grad at McGill University in Montreal reveals that plants respond, positively and negatively, reflecting the emotions of the persons nearby.[47] Emotion is a part of matter at its most rudimentary level.

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[42] K. C. Cole, "Scientists Think They've Glimpsed the God Particle," Los Angeles Times, Nov. 3, 2000. For a synopsis on background research on this, see Leon Lederman, *The God Particle: If the Universe is the Answer, What is the Question?* (New York: Dell, 1994).

[43] Richard Feynmann, *Q.E.D.: The Strange Theory of Light and Matter,* Alix G. Mautner Memorial Lectures (Princeton: Princeton University Press, 1985), 37.

[44] Candace Pert, *Molecules of Emotion: Why You Feel the Way You Feel* (New York: Touchstone, 1997).

[45] Pert, 138.

[46] Larry Dossey, *Be Careful What You Pray For...You Just Might Get It* (San Francisco: HarperSanFrancisco, 1998), 167-70.

[47] Ibid., 179-80.

This matter described by Contemporary Science is strikingly different than the impenetrable, hard, inert, passive, matter of Newtonian physics. It is energetic at its most foundational, light-filled, intelligent, emotional, and relational, functionally bonding to form larger entities through light interaction. Contemporary cosmology describes **the Universe as One emerging out of the dark void,** but the void itself is alive with effervescent dynamic quantum wave-particles of light. In this context, we can speak of the connection between Light and Darkness. The Light of the Big Bang is the merging and interaction of photons of light out of the darkness of the quantum field, forming ever-increasingly complex forms of matter filled with light.

Energy into Matter and the Natural Emergence of Higher Order Systems

The Science of Complexity is a relatively new field of science which is emerging from the fields of Chaos Theory, Systems Theory and Mathematics,[48] and is sometimes referred to as Emergence Theory.[49] Complexity Theory studies the spontaneous order of self-organizing systems brought about by the intake of matter/energy/information.[50] The new form brought about by this influx is more complex and displays emergent properties, that is, properties which are not merely the sum of the parts of the old form.[51] Thus, the new system in fact, transcends the old system.

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[48] Roger Lewin, *Complexity: Life at the Edge of Chaos*, 2nd ed. (Chicago: University of Chicago Press, 1999).

[49] Michael Welker, *God the Spirit*, trans. John F. Hoffmeyer (Minneapolis: Fortress Press, 1994), 30.

[50] Stuart Kauffman, *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity* (New York: Oxford University Press, 1995), 8, 25; John Polkinghorne, *Science and Theology: An Introduction* (London: SPCK, 1998), 44; George Nicholis and Ilya Prigogine, *Exploring Complexity* (New York: W.H. Freeman, 1989), 8.

Self-organization is ubiquitous in nature but has until recently been overshadowed by the mechanistic view of nature, which focused on parts rather than wholes, on closed systems rather than open systems.[52] With mechanistic reductionism, the details were the focus; in systems theory the general holistic properties are the focus.[53] Findings from Complexity Theory have been applied to the fields of Chemistry, Physics, Biology, Psychology, Economics, Linguistics, Sociology, and Theology.[54] In the field of Theology selective works which include insights from Complexity Theory and its relevance for understanding Divine action include John Polkinghorne's *Science and Theology: An Introduction,* Arthur Peacocke's *Theology for a Scientific Age: Being and Becoming – Natural, Divine, and Human* and his more recent collaboration with Robert John Russell and Nancey Murphy as co-editors, *Chaos and Complexity: Scientific Perspectives on Divine Action,* and Michael Welker's *God the Spirit*, to name a few. What these works have in common is that they incorporate complexity theory as a holistic systems approach to explicating Divine action.

Before these works can be reviewed and their implications in the field can be assessed, a clear definition of Complexity Theory is in order. Systems Theorist Ervin Laszlo outlines "the science of organized complexity" in *The Systems View of the World:*

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[51] Kauffman, 24.

[52] Nancey Murphy and Warren S. Brown, *Did My Neurons make Me Do It? Philosophical and Neurobiological Perspectives on Moral Responsibility and Free Will* (Oxford: Oxford University Press, 2007), 40, 57.

[53] Kauffman, 17.

[54] Lewin, 9-10.

A Holistic Vision for Our Time.[55] This science arose out of a need and a complement to mechanistic science.[56] While mechanistic science is reductionist, analyzing parts; the science of organized complexity takes a holistic approach, examining interrelations between parts, environmental influences, and the functioning of systems as a whole.[57] It is used as a complement to Newtonian science and is no way intended to replace the findings from mechanistic science. The sciences are used in tandem; Complexity Theory is employed as a guiding framework and the findings from Newtonian science placed within that broad framework.

Laszlo identifies the laws of complex wholes that apply to systems. **These characteristics and properties are surprisingly irrespective of the elements making up the system.**[58] This is why the findings of various systems have emerged over time into a science, because the laws offer a broad framework for which any system can be described in general terms.

> The [mechanistic] specialists concentrate on detail and disregard the wider structure which gives it context. The systems scientists, on the other hand, concentrate on structure on all levels of magnitude and complexity, and fit detail into its general framework. They discern relationships and situations, not atomistic facts and events. By this method they can understand a lot more about a great many things than the rigorous specialists although their understanding is more general and approximate.[59]

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[55] Ervin Laszlo, *The Systems View of the World: A Holistic Vision for Our Time,* Advances in Systems Theory, Complexity, and the Human Sciences (Cresskill, NJ: Hampton Press, 1996), 8.

[56] Ibid.

[57] Ibid., 4.

[58] Ibid., 6-8.

[59] Ibid, 9-10.

Systems studied by Complexity Theory include "real" and "abstract" systems, such as galaxies, ecologies, organisms, cells, political, economic, and social systems, "theological systems" and "systems of logic."[60] Because of its wide applications, Complexity Theory has become an increasingly important field of study.

It is the "remarkable parallelisms" found in the natural and social sciences which allow for the formation of principles of systems theory.[61] A systems theory approach seeks to identify such parallelisms in the system under investigation.[62] Then, the specific system is explicated in terms of the principles. So a crucial element in systems theory method is identifying parallelisms. In Roger Lewin's *Complexity: Life at the Edge of Chaos,* he graphically illustrates this procedure by tracking various scientists who separately began to identify parallel processes of systems and then with this research began to formulate the formal patterns and principles of complex systems.[63]

By examining the common features of organization, principles become apparent which are hidden in a reductionist approach.

> Classical (Newtonian) science abstracted substance and causal interactions between substantive particulars. Contemporary science (Systems Theory) concentrates on organization: not what a thing is per se, nor how one thing produces an effect on another thing, but rather how sets of events are structured and how they function in relation to their environment – other sets of things, likewise structured in space and time.[64]

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[60] Ibid.

[61] Ibid, 25.

[62] Lewin vividly describes this process for several fields of investigation by various researchers in *Complexity: Life at the Edge of Chaos.*

[63] Lewin, 22.

[64] Ibid., 25.

There are recurring commonalities, principles, which systems theorists find in systems whether in the suborganic, organic, or supraorganic realms.[65] Laszlo identifies four principles for Natural systems. A "Natural system" is "any system which does not owe its existence to conscious human planning and execution."[66] Natural systems are open systems, that is, they require an input of energy to maintain themselves.[67] The second law of thermodynamics which describes an increase in entropy, becoming dissipated and less organized, is for closed systems. What we are talking about here are open systems. The four principles for natural systems are:

1) Natural systems are wholes with irreducible parts.
2) Natural systems maintain themselves in a changing environment
3) Natural systems create themselves in response to self-creativity in other systems.
4) Natural systems form "liaisons" between the lower level components within the system and between the components of higher level system.[68]

The amazing finding and the central feature of Complexity Theory is "emergence."[69] Spontaneous higher order emerges naturally in open systems; the new system which emerges transcends the old system naturally. The systems take in "energy, matter, and information" and then after a period of stability may go through a **critical threshold**, due to this input, which causes the system to break through the former organizational barrier and **spontaneously re-formulate itself into a higher order.**[70]

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[65] Laszlo uses these terms instead of "inorganic, organic, and social," to describe the "levels of organization" and not as "categories of reality." Laszlo, 27.

[66] Ibid, 32.

[67] Ibid.

[68] Ibid, 53.

[69] Lewin, 175.

The critical threshold has been termed a "phase transition," "far-from-equilibrium," and in its more poetic language "the edge of chaos."[71] There is, simply put, "order out of chaos" with "chaos" denoting the unstable critical threshold.[72] At the critical threshold, the system is temporarily de-stabilized and the "chaos offers an infinity of patterns" for systems to choose from. The term "chaos" may be misleading, for it is simply the creative period when possibilities are open temporarily, "where novel properties emerge."[73] The descriptive "infinity of patterns" is a statement of the general case; for the specific case, historical contingency plays a constraining role as to what new order may emerge from the previous regime.[74] Examples of common phase transitions are water reaching the boiling point, going from a liquid state to a gaseous state, strings of proteins becoming cells, cells becoming multi-cellular organisms, cities becoming states, consciousness breaking through after an accumulation of facts is acquired.[75] The parallel pattern of processes, of how higher-order emergence occurs is the same and is ubiquitous in nature, forming the study of the science of complexity.

The first principle is that natural systems are wholes with irreducible parts. Their formal structure depends upon interdependence between parts. A hydrogen atom does not merely consist of a proton, neutron, and electron, it is the relationship between the parts, in this case the field of force, which comprises the atom. The brain is comprised of neurons, but it is how the neurons are organized which determines how well it functions. A business may have the common elements of a boss, employees, desks and chairs, where the people and parts can be replaced, and still maintain itself as a social system.

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[70] For the three as a unit, see Laszlo, 21, 34; John Holland, *Hidden Order: How Adaptation Builds Complexity* (New York: Helix, 1995), 3; Murphy and Brown, 10.

[71] Polkinghorne, *Science and Religion*, 92; Lewin, 52-55.

[72] Polkinghorne, 44.

[73] Lewin, 54, 188.

[74] Ibid., 71.

[75] Polkinghorne, 92.

> "The fact that physical entities such as atoms provide communication between their parts in terms of the interaction of fields of force potentials, that things such as organisms provide parts-communication by physicochemical means, and that multi-person organizations establish communications of quite another kind, does not invalidate their holistic character....in all its forms [there] remains *communication*, that is effective, *mutually qualifying interaction* between the members."[76]

It is only with interactive forms of communication that a group, an aggregate, becomes a "system." It is *the organization of the parts* through the various types of communication (mutually qualifying interaction) and not just the parts themselves which comprise a system, a "whole" rather than just collection of "parts." It is the way a system is formed, its "formal or configuration regularities" and not just the "stuff" it is made of which will serve as "a basis for amplification" from which a higher order emerges.[77] This is another way that contemporary science addresses the Intelligent Forms in the world of matter: matter exchanges communication.

The second principle is that Systems maintain themselves in a changing environment. Systems either develop and evolve, or run down and decay; they can not remain inertly the same due to the openness of the system. Requisite energy is required to keep systems running.

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[76] Laszlo, 29.

[77] Amplification is essentially waves in coherence. Terrence Deacon, "Three Levels of Emergent Phenomena," in *Evolution and Emergence: Systems, Organisms, Persons*, ed. Nancey Murphy and William Stoeger (Oxford: Oxford University Press, 2007), 95.

> "If any given thing is to maintain itself in proper running condition, it must act as a subsystem within the total system which defines its energy supplies....The subsystem must take in substances which contain energies in a form which it can use for its own purposes."[78]

This statement describes what is meant by an intake of matter/energy/information.

Systems maintain themselves in a steady-state, and not in inert equilibrium.[79] A steady-state is a particular configuration of parts and relationships, and is also called an attractor.[80] (An attractor also refers to the center of organization for which the new emergent order forms around.)[81] There is a flow of elements towards a center, while the attractor acts in a "top-down" manner to achieve organization of aggregates. There is a balancing of energies and substances in the steady state, with highly organized energy being taken in and degraded forms of energy being exported. Above, it was the organization, how parts communicate which was said to account for the Intelligence and Form of matter. What is being brought out here is, within this organization a center of attraction is a necessary element of the overall organization, and is yet another aspect of intelligence in matter itself.

Maintenance of the dynamic steady state requires both internal and external information. Natural systems maintain their own internal environment. For example, the human body, or any organism, maintains its own body temperature and essential substances and conditions.[82] Not only energy is required, but also information. **Information is taken in by sense receptors from the external environment.**[83] For the human body, this would be the senses of sight, smell, hearing, touch, and taste. Such sensory information is mediated through energy, sound waves, light waves, etc. Information is mediated through energy waves. When in danger, organisms take steps to protect themselves. They do this through their senses. Through communication of internal sense receptors, organisms can repair themselves through healing and regeneration. Information also entails anticipating the future. Systems "must be able to predict to some extent what is likely to happen."[84] An animal's sense of smell may indicate the presence of a dangerous predator. Even at the sub-organic level, quarks have been observed to anticipate possible collisions with high speed particles and move in a trajectory as if they indeed had been impacted, and emit a photon as if they had experienced a collision.[85] Humans have highly developed predictive skills: we no longer respond by merely fight or flight, but by creative means to prevent danger.[86] Systems maintain themselves through creativity, through openness to the possibilities, by reaching up to patterns of the (historically constrained) Infinite.[87] This is not a vague reaching out to the Infinite, this is new information carried in matter/energy which has information internal to it, as information was described above in terms of organization.

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[78] Laszlo, 32.

[79] Ibid.

[80] Laszlo, 32; Lewin, 20-1, 27, 46. Systems can have more than one steady state that is settled into periodically. "Attractor" can be used to describe the state, or the centralizing, unifying element of the new emergent structure.

[81] Holland, 18.

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[82] Laszlo, 35.

[83] Ibid.

[84] Ibid, 35.

[85] The quark does not move away in any direction, as one of only a few options, it may take the path as if it had met with collision. Feynmann, 37.

[86] Ibid.

[87] Lewin, 38.

For a social group, maintenance is often achieved through rules, laws, principles, even operating when unformulated. Groups can be organized rigidly or flexibly, however social systems have a conservative element, a code distinctive from the larger system which they are embedded in.[88] *Maintenance* of a social group is often achieved through *rules*, while *regeneration* requires *creativity*. For a university, offering new classes may revive the old system. An aging city may revitalize its downtown through creative endeavors. In the suborganic, organic, and supraorganic realms "structures adjust and adapt even evolve maintaining themselves in a dynamic-steady state or series of steady states rather than in inert equilibrium."[89] The examples above of social systems is offered to show how the overall principles of Complexity Theory apply not just to formations of increasingly higher forms of matter, but also formation of social organizations.

The third principle is that natural systems create themselves in response to self-creativity in other systems. This principle has been briefly touched on above in terms of the input of matter/energy/information. Laszlo identifies two forms of change: ontogenesis and phylogenesis. The first is a preprogrammed or encoded type of change, such as an embryo evolving and growing in the womb. Phylogenesis on the other hand, is evolution, "the self-creative advance of nature into novelty."[90] **It is "self-**

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[88] Ibid.

[89] Ibid, 38-39.

[90] Ibid, 39.

transformation."[91] Structures evolve becoming more complex naturally. It was cited above how "chaos" temporarily leads to emergence. However, in the overall history of emergence there is an ongoing reduction of chaos as higher order increases. Whereas the second law of thermodynamics, relevant only for closed systems called for an increase in chaos, for natural open systems there is an increase in complexity.[92] **There is a drive witnessed in the natural world for an increase in complex forms.**

The rise in complexity is not a smooth forward process. "Processes build up until they reach critical thresholds; then they trigger sudden change."[93] This can be seen for species and institutions. Systems have feedback loops that compensate for or neutralize abnormal conditions in the environment maintaining stability. For example, the homeostatic mechanisms in the body regulate temperature. For institutions, rules and punishments are devised to keep the institution running smoothly. When feedback loops carrying information from outside the system reach the crisis level or critical threshold, the pressure may push the system into a new emergent form. In physics, excessive pressure and heat lead to new atomic forms arising. In biology, there is the emergence of a new species brought about by environmental pressures. In social-cultural systems environmental pressures may prompt "crisis management" resulting in a new cultural system,[94] such as Protestantism emerging out of Catholicism. When systems become critically destabilized they either evolve or die. Whether crisis management or creative revitalization, creativity must be applied from within the system itself.

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[91] Ibid.

[92] Ibid, 41.

[93] Ibid.

[94] Ibid, 42.

In the critical period, elements move outwards from their previous organizational regularity.[95] For higher emergence to occur an attractor acts as a new center for organization and there is a flow of elements within the system towards the center.[96] A new regime emerges which has been fueled by the feedback loops carrying information from the outside.[97] This new emergent order has adapted to the environment by taking in novel elements of energy, information, and matter and formulating them into a new regime.[98] A steady-state occurs until the next critical phase is reached at which time the system may experience bifurcation, and movement away from the former center of attraction. And the cycle repeats creating new emergent forms.[99]

When systems evolve their external as well as internal structures change. When neighboring systems interact, the input of new energies may cause a feedback loop in one system which can lead to the onset of a critical threshold. This causes the emergence of a new more highly complex system, the emergence of a superstructure. The superstructure now exhibits a whole to parts influence on the interior of the formerly separate system. Each internal system may retain its former function though now more evolved due to the influences from the wider system. There is increasing individuation, as specialization in function increases in relation to the wider network of systems. The world tends toward de-isolation and complexification, while maintaining individuation. The pattern of emergence described above is witnessed in all levels, the suborganic, organic, and supraorganic.

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[95] Prigogine and Stengers, 166-70.

[96] Ibid.

[97] Ibid, 166.

[98] Prigogine and Stengers, 166; Laszlo, 34.

[99] Prigogine and Stengers, 169.

The fourth principle of complex systems is that individual systems form "liaisons" between the lower level components within the system and between the components of the higher level system.[100] In Systems Theory, holism is a crucial factor necessary for describing any system in our world, in contradiction to the Mechanistic model which tended to focus on parts.

> "Because the patterns of development in all realms of nature are analogous evolution appears to drive toward the superposition of system upon system in a continuous multilevel structure traversing the regions of the suborganic, the organic, and the supraorganic."[101]

Individual systems form "liaisons" between the lower level components within the system and between the components of the higher level system.[102] All natural systems must maintain this communication by integrating internal parts to the whole and whole to parts. The language of "bottom-up causation" has been used for the communication of internal parts affecting the whole and "top-down causation" for wholes communicating to parts.[103] At the suborganic level, the atom integrates its internal particles and similarly interfaces with other atoms and with the molecule of which it is a part.[104] On the organic level, cells integrate their sub-cellular elements such as the nucleus, cytoplasm, etc. interfacing with them and with the organ of which they are a part. Higher-order vertebrates interface in social communities and the community interfaces, regulates, the behavior of its members.

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[100] Laszlo, 53.

[101] Ibid.

[102] Ibid.

[103] D.T. Campbell, "'Downward Causation' in Hierarchically Organized Systems" in *Studies in the Philosophy of Biology: Reduction and Related Problems*, ed. Francisco J. Ayala and Theodosius Dobzhansky (London: Macmillan, 1974), 179-86.

Interfacing, communication among human beings, has taken a qualitative difference from that of other species. The invention of language is an important development in interfacing capabilities. The symbol allows humans to not only talk about the here and now, but about the past and future, remote, abstract, and the imaginary.[105] The classical scientific method of inquiry has led to advances concerning the human being in terms of "behavior, disposition, and the subconscious" but it has also led to a "fragmentation" in our understanding.[106] In systems thinking, the human being is a natural emergent entity inhabiting several interrelated worlds.[107]

The human being arises amidst this flow of energies and build-up of emergent structures. Humans display consciousness, which Laszlo defines as "subjectivity – a subjective awareness of the experience of sensations."[108] All along the evolutionary rise has been an increase in the degree of sensitivity and awareness in the structures that are forming. Recent experiments show unsuspected sensitivities in the most basic constituents of life from atoms, to plants, to cells, to human beings.[109]

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[104] Laszlo, 54.

[105] Ibid, 56.

[106] Ibid, 60.

[107] Ibid.

[108] Ibid, 65.

> "Subjectivity is possessed by all natural systems, although the grade of subjectivity differs from level to level and species to species...When subjectivity is defined as the ability of a system to register internal and external forces affecting its existence in the form of sensations, however primitive they may be, we must conclude that subjectivity is universal in nature's realms of organized complexity."[110]

According to Laszlo, nervous systems however, seem to be necessary for an individual to achieve self-awareness, that is, consciousness.[111] The ability of monitoring sensations and not merely responding to the actual sensations themselves is reflective consciousness. Computers however have displayed this ability.[112] They have been designed to perform self-corrective monitoring which in some respects is an advance on the human being's capacity, however these computer abilities are developed by humans and not developed by the machines themselves.[113] The monitor of the human being is the cerebral cortex, "the seat of reflective consciousness."[114] This arose naturally as the need for monitoring arose in a complex environment. Our ancestors learned to learn from their experience. "Intelligence is the most efficient instrument of interaction between organism and environment."[115]

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[109] Ibid, 66. Atoms show sensitivity to their environment such as when being bombarded by a particle. It is sensitivity on an atomic scale, while a cat shows sensitivity to a degree for its development of complexification.

[110] Ibid, 68-69.

[111] Ibid, 69.

[112] Ibid, 70-71.

[113] Ibid, 71.

[114] Ibid.

[115] Ibid, 72.

Learned experiences are communicated for future generations through culture. Art was the earliest expression of symbolic representation in physical form handed down between generations. Language developed using symbols rather than expressive signs, symbols which could enhance monitoring in the form of written memories.[116] Culture may have arisen for practical life saving purposes, but it has taken on a life of its own. Culture itself evolves.

> "It seems that the self-monitoring capacities of the human nervous system, coupled with its sensitivity to the environment, emancipated us from the confines of sensory reality and placed us within a world we ourselves created."[117]

The social history of the species shows the similar organizational processes of differentiation, complexification, and individuation of groups and groups within groups.

There are factors in a culture which can accelerate societal process. These are tool-using capacity, customs and laws regulating interrelations and exchange of goods, the speed and range of interpersonal communication, and values which guide the society. Values are "suprabiological."[118] They are goals which behavior strives to achieve. However, all natural systems operate on values. Natural systems take in "order and usable energy at the expense of disorder and entropy in their environment."[119] They seek to maintain themselves, do repairs, and reproduce. These are values shared by all levels. While individual values may be different among human beings, Laszlo identifies common values as survival, mutual collaboration, the raising of children, the worship of transcendent entities, and avoidance of suffering, injustice, and pain.[120] As with all natural systems, we share values of survival, creativity, mutual adaptation in society, with the alternative being isolation and death.

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[116] Animals use expressive signs such as the dance and whistle of birds in mating season.

[117] Ibid, 74.

[118] Ibid.

[119] Ibid.

Normative values are not descriptive, but postulated. They are "things we discover by examining human characteristics and pointing to those values which could lead people to fulfillment."[121] Fulfillment is the realization of human potential as a biological and socio-cultural being.

> "It means bodily as well as mental health. It means adaptation to the environment as a biological organism constituting an irreducible whole of its parts, and as a socio-cultural role carrier collaboratively constituting the multi-person systems in his or her society."[122]

As structures merge into superstructures, and in times of crisis, values will have to be "rediscovered" in terms of the criteria stated above. According to Laszlo:

> "All systems have value and intrinsic worth. They are goal-seeking, self-maintaining, and self-creating expressions of nature's penchant for order and balance. The status of the human being is not lessened by admitting the amoeba as his kin, nor by recognizing that socio-cultural systems are his suprasystems. Seeing ourselves as a connecting link in a complex natural holarchy itself as an expression of self-ordering and self-creating nature bolsters our self-esteem and encourages our humanism."[123]

Laszlo calls forth the need to respect our environment and raises our consciousness to our place in it.

Laszlo specifically addresses religious systems. Religious institutions, as evolving complex structures, continue to interface with the greater society of which they are embedded. Science has and continues to be part of the rational worldview and culture. "In these critical times an adequate knowledge of ourselves and our world is no longer a topic merely for academic discussion, but an issue of deep public concern."[124] The integration of a holistic, scientific understanding would greatly serve not only theological perspectives, but by extension the greater society, as religious and scientific views become more compatible.

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[120] Ibid.

[121] Ibid, 81.

[122] Ibid, 82.

[123] Ibid, 91.

What Complexity Theory offers is a holistic account of emergence as a natural phenomenon throughout nature, from the suborganic to the supraorganic. Emergence is transcendence. This transcendence is not unique to the spiritual human being, but an aspect of all of nature. All God's creatures transcend in order to survive. We do this by, as Laszlo stated above, creating ourselves. This creativity is inspired through the influx of energy, information, and matter from the environment. The environment includes the photon emissions from the quantum field, the food we eat, information learned or studied as Plato and Philo emphasized above, the way we are raised, advice from friends, our interaction with the Divine, the list is endless. The direction of our transcending depends upon what becomes the center of organization for our new form of emergence. Transcendence has been identified in the past as a function of the Spirit of God upon the world of matter.[125] Transcendence as emergence is a natural part of the world of matter, and is brought about by an intake of information/energy/matter with matter fundamentally comprised of light.

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[124] Ibid.

[125] Hans Schwarz, "Transcendence," in *A New Handbook of Christian Theology,* ed. Donald Musser and Joseph Price (Nashville: Abingdon Press, 1992), 494-9.

Energy Defined from a Systems Perspective:

Earlier it was stated that an input of energy, matter, and information was required for a new order to emerge. Yet, throughout Laszlo's work and the work of other Systems Theorists, the three (energy, matter, and information) are subsumed into the one (energy). Einstein had defined energy in terms of mass (E = mass times the speed of light squared). Laszlo, though certainly in a less rigorous and general way, takes this further by defining mass *and information* in terms of energy.[126] Mass is "rigidly integrated energies" while **information is coded patterns of energies.**[127]

Laszlo provides a description of cosmic origins, specifically how a star forms, presenting it in terms of "energy" and not in terms of "things in space and time."[128] What is described below fits within the prevailing cosmological model, the Big Bang Theory developed in the later half of the twentieth century. After the big bang explosion/s as the temperature goes down, "strings" give rise to density perturbations leading to the formation of galaxies:

> "Energy flows along pathways structured by the metric of integral space-time It flows smoothly, without crinks or wrinkles, over vast stretches of this cosmic matrix, and it becomes contorted in some regions. In these regions there are disturbances along the flows induced by the presence of electromagnetic forces. Some of the flows tie themselves into knots and twist into a relatively stable pattern. Now there is something there – something enduring – whereas before there was but a transitory flow. Here and there, energy forms recognizable patterns, which endure in time and repeat in space. 'Things' are emerging from the background of flows like knots tied on a fishing net. These are local actualizations of energies which remain put. The highly integrated focal points of such phenomena are the most basic kinds of energy patterns the human intellect can objectify

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[126] The procedural method for the systems approach is to find parallelisms, and then fit in the findings from the particular mechanistic sciences.

[127] Laszlo, 63.

[128] Ibid, 61.

> against the background of space-time. They are the particles of matter; Einstein called them 'electromagnetic disturbances' in the space-time matrix."[129]

The knots form on a continuum and communicate with each other through the mode of attraction and repulsion. Knots move closer together through the force of attraction forming a cohesive mass, while balancing their internal energy flows. A star forms through the build up of the strong nuclear force. Eventually other knots go through a similar process and the universe is sprinkled with the balanced energy of stars. The process repeats with nodules forming and interacting. There is a more complex flow of energies forming structures which then "serves to channel fresh flows of energy and act as 'structure' in relation to 'function.'"[130] "New waves of formative energy course over stabilized structures."[131] The established structures serve as "templates for the production of new systems of flow."[132]

In this process and speaking now of the "things in space and time," quarks and leptons integrate and their energies condense to form electrons and nucleons, eventually forming into stable atoms. Uncompleted shells allow the atom to bond with neighboring atoms. Chemical molecules are formed, then polymer molecules and crystals, proteins and nucleic acids, cells and organisms. Organisms form as patterns on a free flow of energies, substances, and information. Supraorganic structures of ecological and social communities form. The elegance of this solution is that it allows the processes to be studied under one defining concept, the flow of energy/information/matter.

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[129] Ibid.

[130] Ibid, 62.

[131] Ibid.

[132] Ibid.

Energy from the quantum field gives rise to structures. It does this by interacting with other elementary particles. This interaction is the most basic kind of **information exchange.** As energy forms into matter there is **an increasing amount of information built up** in the systems themselves, and in the new exchanges. When enough information, energy, and matter for good or for bad come upon the system it may temporarily experience a crisis stage, and then reformulate itself based on its new information. The new formulation is an emergent order, with new properties that were not the sum of its parts. A new vocabulary is needed for the new emergent order.[133] There is a drive witnessed in nature which causes transcendence on every scale. As Stuart Kauffman states, it is not we the accidental, but we the expected.[134]

Again, the question is addressed, how is Spirit/Light and Dark/matter connected. The answer from a Complex Systems perspective is that the Light of the Big Bang becomes matter. Light as photons, the carriers of the electromagnetic force, is a constitutive part of all matter and the force that binds matter together. This light carries coded patterns of energy and merges with other light carriers of coded patterns of energy to form higher order complex structures of matter which continuously transcend. Previously, spirit had been described as that which transcends matter. From the science of Complexity Theory, matter is continually transcending itself in Nature with creativity, taking in intelligence and light as electromagnetic energy from its surroundings. The Greeks had regarded the *Logos* in matter as the Divine rational principle. If light is in matter, and spirit is transcendence itself, and matter is intelligent, and creatively flowing from One Light Source, then the connection is that the world of matter is an extension of this Source as Intelligent Light.

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[133] Holland, 30.

[134] Kauffman, 118.

Neuroscience: The Energy of Light Leading to Emergent Consciousness within Brain Matter

A Brief History of Neuroscience

This section addresses the connection between Spirit/Light/*Logos* and dark matter, specifically in terms of brain matter. Part one provides a brief history of Neuroscience, beginning with early Greek conceptions of spirit as mind, to mechanistic conceptions of brain function in the early modern era, to contemporary descriptions of brain matter as pliable and organic. Part two examines how sensory learning impacts changes in brain structure and addresses the mind-body problem. Part three offers a Systems Theory analysis of how the brain functions and how learning occurs. An emphasis throughout will be to show how energy is an essential element in brain functioning and the emergence of higher states of consciousness. This is provided to specifically address contemporary explanations of Divine-Human interaction which dismiss energetic processes.

The study of Neuroscience began in the Greek period and one question of inquiry was whether the mind, soul or spirit was located in the heart or the brain.[135] Aristotle postulated that the mind was located in the heart, while the physician Galen, using experimentation, located the mind in the brain.[136] From his experiments, Galen concluded that "the brain is the organic seat of consciousness" while the soul in the form of "psychic cells" resides in the ventricles in the brain.[137] His theory of the four humours became the dominant theory of medicine in the Middle Ages. The four humours were phlegm, black bile, yellow bile, and blood. "Spirit," *pneuma*, was conceived as a blood-bone material in the body which guided bodily processes, because the spirit was historically regarded as the source of animation.[138]

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[135] J. Allan Hobson, *The Dreaming Brain* (San Francisco: HarperSanFrancisco, 1988), 86.

Galen's scheme of the localization of the mind in the brain was strengthened by experimental procedures in the Renaissance and early modern era. Leonardo da Vinci first provided a basic detailed structure of the brain, while Vesalius was one of the first to dissect the brain, adding to the structural understanding. The British anatomist Thomas Willis in the early seventeenth century located consciousness in brain tissue as well as in the brain ventricles which were discovered to have a wing-like shape, which added to its likelihood of being the seat of the soul.[139]

"The most famous historical statement of the relationship of brain to mind is that of Rene Descartes ... who became the father of modern mind-body dualism."[140] He located the soul in the small nexus of tissue above the brain stem, the *pineal body*.[141] The pineal was shown to be sensitive to light like the retina, however its function was to monitor external light changes so as to regulate internal heat generation. The pineal, a light meter or doorway, was equated with the divine light of the soul.[142] Following Descartes, Leibniz and Locke debated the nature of consciousness and whether it depended upon sensation. Leibniz spoke of consciousness in terms of innate ideas, while Locke regarded sensation as necessary for consciousness.[143] Newton's view was that sensation was mediated by the "vibration of a very subtle spirit" through the nerves.

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[136] Ibid.

[137] Ibid.

[138] Ibid.

[139] Ibid.

[140] Ibid, 87.

[141] Ibid.

In the eighteenth century, Franz Joseph Gall, famous for his phrenology, assessed personality through the surface of the scalp. However, he also theorized that the gray matter in the brain was composed of neurons (brain cells), while the white matter was comprised of fibers.[144] His work was followed by Charles Bell's *New Idea of Anatomy of the Brain* in 1811 and later *The Nervous System of the Human Body* in 1830. Bell outlined the structural basis of reflex stemming from the spinal cord in terms of nerve impulses. In 1822, Francois Magendie demonstrated the essential sensitivity of nerves. Both Bell and Magendie explicated movement in terms of electrical properties in the body. Energy from the environment impinges upon the body's sense organs and skin, and electrical impulses are conducted through nerves of wire-like structures into the central nervous system to the muscles producing movement.[145] "Following Bell and

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[142] Ibid.

[143] Ibid, 90.

[144] Ibid, 87.

[145] Ibid, 89.

Magendie, **the spirit could be identified as electricity** and later further analyzed as the flux of ions across the nerve membrane," according to Hobson.[146]

The neuron doctrine of Spanish neuroanatomist Santiago Ramon y Cajal (1852-1934) on individual nerve cells and their dynamic interactions brought the discipline of neuroscience from "relatively static" descriptions to "truly dynamic" descriptions, for which he won the 1906 Nobel Prize in physiology and medicine.[147] Prior to Ramon y Cajal's neuron doctrine, Sigmund Freud viewed the nervous system as a "syncytium of cells connected to each other by protoplasmic bridges with the flow of information unimpeded."[148] For Ramon y Cajal whose work was founded on "detailed observation" rather than "interpretive speculation," the nervous system was described as "a collection of *independent* but interdependent neurons, each of which is functionally discrete. Each had its own energy source and its own capacity for handling information."[149] Operating within the dualistic framework of the era, Ramon y Cajal's own words express the incredulity of matter being not only energetic but also informational:

> "Can it be that within our organic edifice there dwell innumerable inhabitants which palpitate feverishly with *impulses of spontaneous activity* without our taking any notice of them? And our much talked of psychological unity? What has become of thought and consciousness in this audacious transformation of man into a colony of polyps? It is certain that millions of autonomous organisms populate our bodies, *the eternal and faithful companions of glories and of toils,* of which the joys and sorrows are our own; and certain also that the existence of entities so close to us passes unperceived by the ego."[150]

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[146] Ibid, 90.

[147] Ibid, 92.

[148] Ibid, 97.

[149] Ibid, 97.

[150] Ibid, 98. Quoted by Hobson from Santiago Ramon y Cajal, *Recollections of My Life* (Cambridge: MIT Press, 1937), 296.

For the first time, cells were regarded as individuals with their own spontaneity, capacity for intelligence, form, and energy and regarded with integrity as living individuals and not just passive matter. The structural unit of the brain was discovered to be the individual nerve cell, the neuron, as the atom was to the physical sciences. He discovered that the neuron was at once "a transducer, a conductor, and a transmitter of electrical impulses."[151] Energy from the outside environment was received by the cells dendrites and converted into electrical signals by the transducer function. The conductor function is carried out by the dendrites that receive electrical impulses and the axons which send out information. Cells communicate to each other by electrical signals converted into chemical messages by the transmitter function.

An ionic gradient is set up between the inside and the outer membrane of a cell. Inside each cell is a pump which exudes sodium ions, previously received from blood, across the semi-permeable cell membrane. A concentration of sodium is built up outside the membrane leaving a concentration of potassium inside the cell. A concentration gradient is formed. Because ions are charged particles, the concentration gradient constitutes an electrical potential. In this way energy is not only received, but generated in each brain cell.[152] The membrane potential is approximately one tenth of a volt.[153] The inside of the cell has a net negative charge, while the outside is positively charged. When an electrical signal is passed along from another cell, the signal is received by the cell's dendrite. This increases the inner negative charge and the sodium ions outside rush in, due to the ionic gradient, and the potassium ions rush out. The rapid change of ionic balance creates an electrical pulse which is sent on to the next cell. Information processing in the brain is communicated by energy, not only energy from the outside environment but from within the cell. Along with energy transferal there is also chemical information processing. Information processing in the brain occurs due to ionic flux, requiring energy, information and matter.

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[151] Hobson, 100.

[152] Ibid., 103.

[153] Ibid.

Communication from cell to cell occurs through gaps, or synapses.

An electrical signal arrives at one cell's axonal terminal ending and is converted within the cell to a chemical message, a neurotransmitter, which then diffuses across the synapse. The neurotransmitter can excite an electrical charge or inhibit one, depending upon its chemical make-up. At the pre-synaptic cell, a small portion of the cell membrane is dissolved releasing the chemical into the gap. It takes approximately .5 milliseconds for the neurotransmitter to cross the gap.

The post-synaptic cell has receptors to receive the neurotransmitter. Receptors are proteins which attract and hold the incoming chemical information. This causes an alteration in the post-synaptic cell membrane. The alteration is experienced as a small porous opening, allowing an ion to cross the membrane. The alteration can also cause closures, making the cell less permeable to the incoming ion.

The cerebral cortex, the central processing unit of the brain is connected to the spinal cord through the brain stem. The only brain many primitive animals had was the brain stem.[154] The cerebral cortex is a parallel processing unit, while the spinal cord is a serial processing unit. It is the multi-layer scaffolding of the cerebral cortex, with its billions of cells which allows for consciousness.[155]

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[154] Ibid, 110.

There are upwards of twenty billion neurons in the human brain. Each neuron has approximately ten thousand synapses. That is ten thousand means of communication. Multiplying the twenty billion neurons with the number of synapses each, yields 200,000,000, 000, 000 (2 x 10 to the 14th) communication contacts in the brain.[156] Each synapse can be open or closed, or some intermediate state, which makes the system as a whole infinitely rich in communication processing. In regard to the question of consciousness, Hobson, a former Harvard University medical professor and director of the Neurophysiology lab, states, the question should not be how does consciousness occur, but rather how can there not be consciousness with so much communication going on.[157]

The connection of light to dark matter is evident as well inside the neural process of the brain. The matter of the brain contains the energetic processes of the mind. Photons of light from the outside environment literally inform the brain. All matter radiates electromagnetic information which is received by the senses of the body. In the nineteenth century, Bell and Megendrie actually referred to the electrical processes in the brain as the movement of the spirit, as indicated above. The internal processes of the brain involve converting the information from the environment into electrical impulses across synapses, carrying the information from light, and transforming it to chemical information. The neurons store this information, and the dendrites communicate it throughout the cortex. External light becomes the internal light of consciousness.

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[155] Ibid.

[156] Ibid, 121.

[157] Ibid.

How Sensory Learning Transforms the Brain

In neurological studies in the last few decades, the surprising finding is the dynamic plasticity of the brain itself.[158] The neural pathways in the brain are much more malleable than was originally thought.[159] Environmental factors, such as teaching and learning, acquired through the senses of hearing, vision, touch, taste, and smell alter the brain microstructure.[160] Information from the environment gets converted into electronic pulses which travel to the brain. With increased experience, with each new task or lesson learned the "hardwiring" in the brain actually changes.[161] "Dendrites sprout from brain cells like tree branches."[162] The number of synaptic connections increases as we are introduced to learning stimuli.[163] While learning in the first three years of life rapidly transforms the hardwiring in the brain, learning continues throughout life and continues to alter brain microstructure.[164] As discussed above with Hobson's descriptions, the neuron is an electrical receiver, conductor, and generator. With a sensory input of electromagnetic information received from the environment, there is an increase in neural pathways and synapses such that matter is re-organized and the electrical activity in the brain increases. There is a light to light connection. These new findings in neurological research on the critical importance of sensory input from the environment for organizing the microstructure of the brain would tend to collapse the former mind – brain distinction, so much a part of western philosophy.[165] The connection of light to dark matter is that the photon carriers of information from the environment which includes sensory information received from matter naturally emitting its electrical, photonic pulses and formal education whether from reading or the spoken word, transforms the internal structure of the brain, creating smarter, literally more evolved, and literally more enlightened beings.

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[158] Ronald Kotulak, *Inside the Brain: Revolutionary Discoveries of How the Mind Works* (Kansas City, MO: Andrews McMeel, 1996), 3, 18-9. The majority of Kotulak's studies are from the 1990s.

[159] Kotulak, 7-8, 22.

[160] Ibid., 5, 11,17, 21-25, 54.

[161] Ibid., 17.

[162] Ibid, 14. The number of axons, however remains the same.

[163] Ibid, 18.

[164] Ibid.

Neurological Processes and Complexity Theory

The brain is a "complex dynamical system" displaying "emergent properties at higher levels that depend on lower-level phenomena."[166] In *Nexus: Small Worlds and the Groundbreaking Theory of Networks*, Mark Buchanan describes the neural network of the human brain in terms of the science of organized complexity. Most of the brain's neurons are in the cerebral cortex, the outer layer of the brain. [167] The cerebral cortex is intricately folded, organized into a set of organs. "The cerebral cortex is what makes us distinctly human."[168] Each neuron is a single cell from which issue numerous fibers. The dendrites are the neurons receiving channels; the axons are the transmission lines. When the axons from a neuron link up with another neuron's dendrites there is communication.[169] The local connections sew the brain together into one connected whole. The brain also has long distance axons linking regions from across the brain.[170]

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[165] Ibid., 8.

[166] Lewin, 164.

[167] Mark Buchanan, *Nexus: Small Worlds and the Ground Breaking Science of Networks* (New York: W. W. Norton, 2002), 6.

When disparate images, ideas, and memory come together the brain binds them together into a single mental scene.[171] Our visual senses receive waves of information from photons emitted from matter. In early life, basic spatial patterns are learned.[172] These patterns become encoded in memory.[173] Intricacy of patterns are learned and recorded in the various regions of the brain. These patterns are later linked to meaning. Neurological studies reveal that consciousness occurs when there is activation of neurons from many regions in the brain, which have stored memory.[174] Consciousness is an emergent state, it is neural synchrony (synchronization).[175] If there was not synchronicity in the brain, there would be no perception, no consciousness.[176]

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[168] Ibid.

[169] Ibid., 64.

[170] Ibid.

[171] Ibid, 67.

[172] Rodney Cotterill, *Enchanted Looms: Conscious Networks in Brains and Computers* (Cambridge: Cambridge University Press, 1998), 190-98.

[173] Ibid.

[174] Buchanan, 67.

[175] Ibid.

[176] Ibid, 49.

Teilhard de Chardin states this succinctly when he says that "from the piled up facts, consciousness emerges."[177] We know this from our experience. When learning a new concept we must learn several facts first before they can be formed together into a holistic concept, and then, but not always a moment of recognition arises in which the overall concept is understood. Metaphorically, we say a light-bulb has been turned on. Consciousness is facts coming together synchronically.[178] Synchronicity is not a supernatural phenomenon, it is not a miracle, it is a phenomenon which emerges in well organized networks, from the human brain to pendulum clocks lined up on a wall, to the flight patterns of birds.[179] It is not merely top-down causation in the sense that the brain sends an electronic signal down the brain stem to the spinal cord so that the arm can be raised, it is awareness arising due to the synchronic parallel processing in the brain. We "get it" because many areas of the brain have been working in unison. Emergence occurs as in any Complex System from the overload of input, but in this case **emergence is transcendence of consciousness**.

Species evolve and human beings evolve. The animal brain is smaller, it has fewer cells and is not as intricately organized as the human brain. The memory center, the hippocampus, in an animal brain is much smaller and less complex. The hippocampus sends electronically encoded messages to synaptic connections, which are fewer in animals than in human brains. Memory is stored on synapses, the more synapses the more memory, while the more one learns the more the synapses become intricately shaped.[180] Learning is a prerequisite to consciousness. The more one learns the more dendritic material is grown, the more one can be conscious.[181] Repetition or training is required to maintain new growth and to strengthen neural pathways.[182] Experience itself tells us that we learn from experience. The infant can not just raise her arm to reach a ball. She must learn what the ball is, learn to reach, and learn to coordinate muscles required for reaching, only to learn later in life that she may not want the ball at all. Consciousness is not automatic, it is not divinely implanted, it increases through evolution and within the individual through learning and sensory input.

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[177] Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: Harper and Row, 1959), 78.

[178] Buchanan, 67.

[179] Itzhak Bentov, *Stalking the Wild Pendulum: On the Mechanics of Consciousness* (Rochester, VT: Destiny Books, 1988).

There are many states of consciousness, from waking to sleeping. There are different states of sleeping, such as REM sleep and non-REM sleep.[183] There are different states of alertness, from day dreaming to alert focus. Each state of consciousness has a different signature; a different frequency of brain waves.[184] Brain waves recorded on an EEG show on average that the frequency of the waves in an alert, awake state is twelve to eighteen cycles per second, called beta waves.[185] With eyes closed, a day dreaming state records eight to twelve cycles per second, the alpha state. In a drowsy state to almost falling asleep, EEG will record four to eight cycles per second, the thetha state. At sleep, brain wave frequency is at one to four cycles per second, called delta, while in REM sleep, the brain is very actively dreaming and the EEG will record spiked spindles of fifteen to eighteen cycles per second.[186] States of consciousness are inexorably linked to energetic cycles.

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[180] Kotulak, 145.

[181] Ibid, 23.

[182] Ibid, 27.

[183] Hobson. 135.

[184] Ibid.

[185] Ibid.

The brain not only processes energy from the outside, but also produces energy in the individual neurons. The electric pulses travel as waves in the brain revealing consciousness, and its various states. To say that Divine action on the world is as the Mind on the body can not only be in terms of information, but essentially at its very foundation this action is about energy and matter as well. Learning leads to more elaborate dendrite scaffolding in the brain, which allows for more actual connections, from which consciousness emerges. Consciousness is an emergent process stemming from increased matter/information/ energy.

In addressing the connection of Spirit/Light to dark/matter, it is matter itself that contains light and brings the light of consciousness. The more learning we experience from the environment of matter, the more conscious we become. Our neural pathways increase with more and more dendrite branches sprouting. More synapses are formed. As learning increases, and information is stored in the brain as patterns, we make connections, literally, which become the figurative, abstract connections of consciousness. The connection of light to dark matter is consciousness itself; bringing light into the dark matter of the brain, in terms of information from the environment, creates consciousness. Light connection is consciousness.

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[186] Ibid.

Contemporary Science and Mysticism: Meditative States of Consciousness

This section offers the connection of Spirit/Light/*Logos* and matter from the perspective of mystical experience and brings forward research from contemplative-neuroscience. A discussion of mediated versus unmediated experience will be provided. Research from the field of neuroscience is then brought in specifically as it pertains to the mystical experience. The nine levels of consciousness for meditative states are reviewed, while the mystic is said to experience increased wisdom, enlightenment, transcendence, and transformation at the highest states. From the previous section on Neuroscience it was shown how the microstructure of the brain is changed by repeated tasks. In this section, the repeated practice of meditation is brought to bear on the discussion of the connection between Spirit and matter. In Chapter Three, a variety of mystical experiences were offered which focused on light as the connective element between the world of nature and the mystic, leading to enlightenment. This section provides findings from Neuroscience in terms of what is actually occurring in the brain of the mystic.

At the turn of the last century, stands the pioneering work of William James' *Varieties of Religious Experience,* a classic in Religious Studies. Its empirical nature classifies it as a scientific study for religious experience.[187] With this work he democratizes the Spirit, showing the prevalence of the Spirit in connection with the people in an age of Church hierarchy.[188] It also "helps explain and legitimize the role of the silent mystic."[189] For James, "God is in one person quite as much as another."[190] Martin E. Marty comments, that what James is trying to get across in his work is that "humans were all potentially equidistance from the divine and hence, equally near."[191] James portrays throughout *The Varieties* that God is "part of the world processes, tangled and tied to natural and human ventures."[192]

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[187] Martin E. Marty, introduction in *Varieties of Religious Experience: A Study in Human Nature* by William James, Penguin Classics (New York: Penguin Books, 1985).

[188] Ibid., xi.

This aspect of the Spirit of God "tangled into natural and human ventures" is brought out time and again in his work. A distinction is often made between sensory and non-sensory mystical experience (so Ellwood, Swinburne, Brown, and James himself),[193] however the individual has acquired a history of experiences in this world to bring him or her to the place of having a religious experience. As Peacocke states, the various brain states which allow for experience with the Divine, from the unconscious to the conscious involve the storage of symbolic forms of meaning, including Jungian archetypes, which have at one point been mediated through the constituents of the world. He concludes there is no unmediated communication with the Divine.[194] The person is a cumulative history of increasing brain scaffolding in terms of increased dendrites due to his or her life experiences as described above in Kotulak's work.

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[189] Ibid., vii.

[190] Ibid.

[191] Ibid., xi.

[192] Ibid., xxv.

[193] Robert Ellwood, *Mysticism and Religion*, 2nd ed. (New York: Seven Bridges Press, 1999). Swinburne and Brown's perspective is covered by Peacocke. Arthur Peacocke, *Theology for a Scientific Age: Being and Becoming – Natural, Divine, and Human* (Minneapolis: Fortress Press, 1993), 202-10.

[194] Peacocke, *Theology for a Scientific Age*, 209, 210.

The section above illustrated how the microstructure of the individual's brain changes with the environmental influences of life. Whether in the silence of a room or on a starry night on the hilltop, the individual has a history and an attendant consciousness which is a product of that life journey. Everything which has occurred in the life of the individual has brought her to that moment. An experience recounted by James in *The Varieties* follows:

> "I remember the night, and almost the very spot on the hilltop, where my soul opened out, as it were, to the Infinite, and there was a rushing together of the two worlds, the inner and the outer. It was deep calling unto deep."[195]

Rev. Starbuck, whose experience is here offered, goes on to explain that although a minister of the Church, this was the first time that he had experienced the Spirit so intimately and that he was ever after changed.[196] James' assessment is that the spirit is experiencing transcendence, and as such "the human spirit rises to connect with the divine spirit."[197] Regarding the connection of the Spirit into the world of matter, James states "the unseen region in question is not merely ideal, for it produces effects in this world." When we commune with it, work is actually done upon our finite personality, for we are turned into new [creations] and experience real consequences in terms of changed behavior.[198]

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[195] James, *Varieties of Religious Experience*, 66.

[196] Ibid.

[197] Ibid.

[198] James, 516.

A study was conducted by Greeley to investigate "How Often Does Enlightenment Occur?"[199] In a survey of approximately 1500 Americans, eighteen percent said they had had a mystical experience, while twelve percent said such an occurrence had happened several times.[200] According to neurological findings in order for a religious experience to occur the active part of the brain needs to be quieted.[201] Quietization can occur in different ways, ranging from focus on an object, such as the image of Christ or listening for the voice of God, to simply shutting out all internal and external auditory and visual stimuli.[202] Shutting down senses to reach a meditative state is undertaken by an individual who has lived a life of experience. The mind-brain is in a body and this body comes with years of past sensory input which has shaped the brain.

Newburg, D'Aquill, and Rause provide research for what actually occurs in the brain circuitry as one is having a religious experience.[203] The hippocampus, the attention center of the brain, first experiences a dampening of the flow of neural input as the individual silences the mind.[204] This results in the orientation area of the brain to experience deprivation of neuronal activity.[205] This emptying then causes increased activity into the ancient neural structure of the hypothalamus.[206] A relaxing, pulsing, circuitry begins to flow between the two centers as the quieting, calming messages are relayed back and forth, between the attention center and the primordial center. A neuronal overload of calming pulses occurs shutting down the spatial orientation center, and the ego center. The mystic may experience a sense of oneness with the All, as will be described more thoroughly by Austin below.

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[199] Andrew Greeley, *The Sociology of the Paranormal,* A Renaissance Sage Research paper, vol. 3, series 90-023 (Beverly Hills, CA). The study was conducted in 1973. Cited in James Austin, *Zen and the Brain* (Cambridge: MIT Press, 1998), 535.

[200] Austin, 535.

[201] Andrew Newburg, Eugene D'Aquill, and Vince Rause, *Why God Won't Go Away: Brain Science and the Biology of Belief* (New York: Ballantine Books, 2001), 103, 117, 120.

[202] Newburg, D'Aquill, and Rause, 103, 117, 120.

[203] Ibid., 117.

[204] Ibid.

[205] Ibid, 118.

When an individual intentionally focuses on an object, say the image of Christ, rather than intentionally quieting the mind, a different experience occurs. The right attention area of the hippocampus is aroused with neuronal flow. An increase of neuronal stimuli is now sent to the hypothalamus, and a circuit develops between the two, this time with pulses of active focus, rather than calming, quieting repetitive messages. Activity in the attention area is pushed to maximal levels. This overload of activity deprives the right orientation area of everything but what is being focused on. The right orientation area strives to create a spatial matrix, but it is forced to focus on the image. This image then becomes the entire spatial matrix. It enlarges becoming 'the entire depth and breath of reality."[207] This loss of orientation is experienced as a uniting with the object of focus, a mystical absorption.[208] As Newburg states, "the brain has evolved to allow for transcendence, as wings have evolved for birds."[209] As new dendrites are created with practice of meditation, transcendence becomes easier.

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[206] Ibid.

[207] Newburg et al., 122.

[208] Ibid.

[209] Ibid., 123.

James Austin identifies and describes nine levels of consciousness of meditative states.[210] The first level of consciousness, Level 1, is the ordinary waking state.[211] Sensate perceptions are high, as is a sense of time and place.[212] A normal awareness state is described by Austin as a flow of perceptions, thoughts, feelings, and images, which may be interrupted by daydreams.[213] Level 2 is identified as Slow-wave Sleep with no awareness at all, no sensate perceptions, no sense of time or place, with a sense of replenishment upon waking.[214] Level 3 is Desynchronized Sleep and described as the subject experiencing internalized awareness wherein one may have vivid, imaginative dreams during REM episodes. Level 4 is identified by shallow to deep concentration and receptive meditative modes. This stage is marked by transient to no thoughts experienced, with loss of awareness of intensity, a loss of the sense of the bounded self in space and time, and very little sensate perception. The subject may experience a transient sensation of "one-pointedness" or focus. Afterwards there is a feeling of clarity and refreshment.[215] Level 5 meditative state is identified as a Heightened, Emotionalized Awareness without Sensate Loss.[216] This awareness is a sensate awareness of impressions, peace and joy.[217] The normal experience of the bounded self in place and time is lower than that in the normal waking state. This has been identified by Maslow as a heightened plateau or epiphany state.[218] It is usually "memorable" but "not transforming."[219] Austin identifies Level 6 as Absorption, with degrees of sensate loss ranging from External to Internal Absorption.[220] External absorption is described as focus on an external source, an object or nature itself. Awareness is heightened from the previous state and is of ongoing events or awareness of awareness itself, permeated with black, silent space. There is little to no sense at all of the bounded self, and loss of a sense of time and place, with sensate perception higher in External Absorption and no sensate perception with Internal Absorption.[221] In External Absorption, heightened awareness is not emotionalized. Internal Absorption is marked with intense awareness. After the experience, there is a feeling of enchantment, bliss, ecstasy with "some sacramental quality."[222] The experience is temporarily transforming.[223] At the top three levels of the nine levels of a meditative state one experiences "a loss of the bounded self."[224] There is a permanent transformation of attitude and behavior after such an experience.[225] Level 7 is identified as Insight-Wisdom. Here, there is the highest intensity of external sensate awareness. This awareness is of Oneness, or Suchness; the perfection in all things just as they are.[226] This awareness is Enlightenment, the experience is memorable and transformative.[227] Level 8 is Ultimate Being beyond Expression.[228] There is awareness of Ultimate Source, a groundless void beyond oneness, primordial emptiness.[229] (This is similar to Philo's description of God.) Opposite from the previous level there is no sensate perception, as well as no sense of the bounded self, and no sense of time and place. It is memorable, but "ultimately nothing special" and markedly transforming. It is an experience beyond seeing and knowing, described as nirvana by Johnson, and "a state of grace."[230] Level 9 is the Stage of Ongoing Enlightened Traits.[231] Intensity of awareness is in the midrange halfway between extremely intense and no awareness. The feeling is marked by a sense of the unbounded, both externally and internally. There is an awareness of the Suchness of all things. The normal sense of the bounded self is experienced as "free access without bound" and the sense of time and place is "free access without limitations."[232] Sense perceptions are high. There is a detachment from cravings and aversion which is lasting, and a sense of selfless compassion. Such enlightenment traits are not superficial, but genuinely endure in one's character. There is also a sense that in the flow of events positive things happen with a light touch.[233] This is the stage of "self-fulfilling" activity.[234]

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[210] Austin, 300-03.

[211] Ibid., 300.

[212] Ibid.

[213] Ibid.

[214] Ibid.

[215] Ibid.

[216] Ibid., 301.

[217] Ibid.

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[218] Ibid.

[219] Ibid.

[220] Ibid., 302.

[221] Ibid.

[222] Ibid.

[223] Ibid.

[224] Ibid., 303.

[225] Austin, 301; James. 358,69.

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[226] Austin, 303.

[227] Ibid.

[228] Ibid.

[229] Ibid.

[230] Ibid.

[231] Ibid.

[232] Ibid.

Two things should be noted. The first is the high degree of sensory perceptions involved in the journey through the stages. To describe a meditative-mystical experience as non-sensory would be to pull a level, such as Level 8 out of context. Second, these states of meditation are levels reached through years of practice.[235] The experience of meditation itself and practice of meditation alters the brain microstructure, as all experiences do.[236] The practice continually alters the neural pathways increasing the ability to experience a flow state with ease.

To achieve a connection from the world of matter to the world of Spirit and Light requires practice and prayer, or meditation. Quieting the mind, or meditating on a sacred object produces real affects in the brain in terms of energetic flow. It frees up some areas and bombards other areas with electronic pulses of light. Over time, the brain structure changes such that a new creation emerges, one who may easily experience the oneness of all creation. This Oneness is also affirmed by Contemporary Science, from astrophysics to chemistry and biology, in terms of the interconnecting levels from the quantum field up through the evolutionary build-up of forms. Joy, ecstasy, oneness, light are experienced through the levels of states of consciousness. Beyond this is the primordial experience of darkness. This was also attested by the ancient philosophers who envisioned a primordial darkness preceding a world of light and intelligent forms.

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[233] Ibid.

[234] Austin, note, 303.

[235] Austin, 535-36.

[236] See discussion from Kotulak above.

But beyond level 8 primordial darkness, is Level 9 the free access level, free of the bonds to time, place and matter, where senses are brighter and things flow such that there is self-fulfilling activity, and one is genuinely more compassionate. This level can best be described as lightness of being and "divinity."[237]

Research in mysticism reveals that enlightenment and transformation of character may be experienced by an individual through intent and practicing meditation. The mystic experiences the Divine as One and is transformed. The individual becomes what has been experienced: a person of peace, joy, compassion, and wisdom, and may bring about transformations in the material realm with the slightest of effort.

Conclusion

The early Greek physicists described the beginning of the All, the *Arche*, as One Souce. The Source was considered Divine, becoming the many things of matter, while matter itself was divine, animated, generative, full of life and life-giving, containing the *Logos*, or ideal forms, and reflective of the Source. Quantum Electrodynamics and Complexity Theory concur that all comes from one source. There is a build up of forms as informative energetic particles coalesce together to build up more complex forms. We are part of this continuous Source of energy/information/matter. In the flow of creation, there is a continuous emergence of new forms, a transcendence of former systems. While complexity arises all along the historical route, matter is a stability of form achieved when an open system can maintain equilibrium in the flowing stream of energetic processes. If the divine soul is identified as animated, intelligent, generative of new creations, and immortal, then this matter that contemporary science describes looks more like the Greek concept of matter-ensouled than the inert matter of Mechanistic science.

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[237] Austin, 536.

The body, brain, and mind are fueled by the environment taking in energy, information, and matter. The brain in the body is an evolutionary product stemming from the information developed in less complex creatures which have arisen in the past. One of the most fundamental means of fueling the brain in the body is the intake of food from plants which contains photons from the sun converted to chemical energy, as well as the information within the plant structure. This high-grade energy keeps the body and brain functioning. Sensory experiences also fuel the development of the brain as electromagnetic energy/information/matter is literally taken in through the sense receptors of the body. These experiences alter the microstructure of the brain, creating a new person over time. Particularly learning and meditative practices alter the brain structure as new dendrite material is grown caused by the energetic emanation of sensory material in dialogue with internal thoughts. Complexity theory and neurological studies describe the mind as an emergent property of the experiencing individual who has taken in energy, information, and matter from the environment.

The view offered by contemporary science contrasts sharply with the mechanistic view of nature for which matter was considered inert and sense perception was unreliable at best. In contemporary science, matter is dynamic and fundamentally relational containing information and energy, while sense perception is crucial for creatures to evolve. The Mystical experience of Enlightenment is the product of sense perception and practice which alters the scaffolding of the brain, which in turn allows for richer mystical experiences. Consciousness or enlightenment need not be described in Calvinist fashion of God reaching out to humanity, but humanity reaching out to God in prayer, study, and practice which transforms the brain over time, allowing for experiences of emergent consciousness which transcend the former state. While the Patristic writings emphasized Jesus as the *Logos*, the Catholic Church promoted the view of the sacraments as the only avenue to the Divine, and the Protestants emphasized the scriptures inspired by the Holy Spirit as the only means of connection. According to science, the information-rich world of matter itself promotes growth and transcendence. The Mechanistic worldview set within a Supernatural Theistic framework was founded on a view of matter as inert, un-informed, passive to be acted upon by God who resides outside of the world system and achieves connection through the Holy Spirit. Contemporary science defines matter, and specifically the matter of the human brain as possessing the same ability to transcend former states as that witnessed throughout Nature, leading to enlightenment through meditating on Nature, reading, education, reflection or shutting out the world and allowing the neuronal pulses throughout the evolved scaffolding in the brain to rise to a critical threshold from which bursts forth new consciousness, transcendence of the former self. Transcendence is natural and available to all in a world in which matter is light-filled, with light functioning as a connective, relational, communicative element.

The stages of mystical experience reflect the cosmological models of the early philosophers, particularly Philo. For Philo, apprehension of the Divine came through Mind, particularly intuition. An intuitive understanding is an awareness coming to consciousness, while consciousness has been described as a product of learning and communication of neural pathways across different regions of the brain. Access through the levels of consciousness is achieved through Nature itself, as Heraclitus and Plato observed, through the *Logos* in Nature, through study, prayer and meditation. Consciousness is achieved through the senses and a quieting of the mind to feel an absorption into Nature, a oneness with all that is. The Mystics of Light experienced the Divine Light through and in nature itself. A communion with the Oneness of the Universe could not be achieved if the world of matter, Nature, did no exude the same processes of living energy and intelligence found within the brain, body, and mind of the individual: As a microcosm of the macrocosm we experience the Divine within ourselves reflecting on the Divine within Nature. The structures of the Universe experience the same flow of energy, intelligence, and matter as the individual. This creative flow is expanding from all points in all directions. The connection of the Divine to matter is to come to the consciousness that we are a part of this universal flow of Divine, expanding, creative energy. The individual who reflects and meditates on Nature and the Divine, overtime becomes a New Creation, one who is peaceful, joyful, wise, compassionate, enlightened and able to affect transformations in the material world.

CHAPTER FIVE

A REVIEW OF WORKS FROM THE FIELD OF SCIENCE AND THEOLOGY INFORMED BY CONTEMPORARY SCIENCE

Introduction

From the field of Science and Theology selective works which include insights from Contemporary Science and its relevance for understanding the connection between Spirit and matter will be reviewed. Insights from the following theologians and scientists include Alfred North Whitehead, Pierre Teilhard de Chardin, John Polkinghorne, Arthur Peacocke, Willem Drees, physicist Lawrence Fagg, Wolfhart Pannenberg, Nancey Murphy and Warren Brown, Lynne McTaggert, medical doctors Bruce Lipton and Masaru Emoto. Each incorporates a non-mechanistic view of nature, while some specifically incorporate Complexity Theory as a holistic, systems approach to explicating the interconnection between the Divine and the world.

Alfred North Whitehead: Nature Alive, the World in God, the Initial Aim

Philosopher and theologian Alfred North Whitehead writing in 1938, in his work *Modes of Thought*, entitled two complimentary chapters "Nature Lifeless" and "Nature Alive."[1] In general terms he provides a metaphysical model of the advance of more complex forms of life with increasing mentality from matter. With subtlety, he states, the description of nature as "vacuous bits of matter with no internal value" should be viewed with "suspicion."[2] His point is that as we go down the scale of complexity from humanity to animal life to matter itself, to draw the line of organic versus inorganic at any one place is arbitrary and defies logic considering that degrees of life and mentality are witnessed increasingly throughout Nature. He states that matter has been identified with energy, and energy is sheer activity"[3] In *Science and the Modern World* he defines matter as "an organized system of vibratory streaming energy."[4] Contrary to the Cartesian-Newtonian conception of inert, lifeless matter which he states is an "abstraction" and "inconsistent," is the concept of "nature alive" which is foundational for his metaphysics and theological philosophy.[5]

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[1] Alfred North Whitehead, *Modes of Thought* (New York: Free Press, 1968), 148, 158.

Physical experience is conveyed through sensory experience in terms of wavelengths and vibrations from the world of matter.[6] He states that "our present epoch is dominated by a society of electromagnetic occasions," meaning we receive information from the world of matter through electromagnetic radiation.[7] This information received at its most basic level is emotional, stating that even before we consciously realize a green stone, we feel greenness.[8] Each color has its own wavelength and vibration. Energy is the means of interaction between us and the world around us, but he qualifies this. This energy is not that of the mechanistic physicists which he regards as an abstraction, this energy which we feel at the most basic level is emotionally laden.[9]

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[2] Ibid., 158.

[3] Ibid., 137.

[4] Alfred North Whitehead, *Science and the Modern World*, Lowell Lectures 1925 (New York: Free Press, 1967), 35.

[5] Whitehead, *Modes of Thought*, 145, 147.

[6] Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (New York: Free Press, 1978), 162-63.

[7] Ibid., 98.

[8] Ibid.,162-63.

Whitehead's model of God is a panentheistic model, the world is in God. The inter-connection is achieved via the initial aim: the Divine Mind, intimately interactive at all occasions in his panentheistic model, offers at every moment an opportunity to respond to the upward pull of increasing complexity through mind. All of life displays creativity, while the laws of nature Whitehead regards as "the habits of nature," again abstractions. The rise of complexity, the upward advance of life forms, are informed by God, it is the very creative upward advance of nature itself which reveals the continuous interactive presence of God.

In a presentation of Whitehead's position, David Griffin states that "each experiential event in the world receives from God its ideal aim being an urge toward the best possibility open to it."[10] This is a "uniform divine intervention," according to Griffin.[11] The divine causation never replaces the normal causes but is always part of the normal causal pattern.[12]

> Religious beliefs are primarily from non-sensory experience, whereas scientific beliefs [are generally held] to be based in sensory experience. Unlike advocates of the independence thesis, however, Whitehead did not believe that the different roots of scientific and religious beliefs meant that they could remain un-reconciled."[13]

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[9] Ibid.

[10] Griffin, *Religion and Scientific Naturalism*, 97.

[11] Ibid., 94.

[12] Ibid., 95.

[13] Ibid., 9.

Griffin goes on to explain that Whitehead believed that truths in philosophy and science, as well, are disclosed by non-sensory as well as sensory experience.[14] Part of the thesis of this dissertation is that religious truths are founded in religious experience, and religious experience is at its core sensory, this sensory experience then shapes the brain allowing for more complex thoughts and experiences.

John Polkinghorne:
God's Action in the World described by Complexity Theory

In the works of John Polkinghorne, one finds a concept similar to that expressed by ancient philosophers such as Pythagoras, Plato, and Philo, that one mode of the relationship between *the human to the Divine* is achieved through an appreciation of the Divine Forms, the *Logos* or Reason in Nature. The relationship from the Divine *to* the world, on the other hand, is achieved analogously as Mind to mind. In *Science and Theology*, Polkinghorne addresses the topic of the nature of God, defining the concept of God to explicate the relationship of Spirit and matter. In *The Metaphysics of Divine Action* he addresses the Divine-human relationship from the side of the Divine, preferring the language of divine action, and states that Divine Action is "active information."[15]

In *Science and Theology*, he states that his methodological approach is "experiential" and "analogical."[16] In this work he proceeds in scientific fashion by gathering data and then finding a theory to fit the data. He states that finite human language fails when discussing the Infinite, and finds analogical language helpful, "for it allows us to start with what we know."[17] The experience specifically which informs him is "the effects in human experience that theistic belief might correspond to."[18] In other words, belief is the basis of the relationship from the human to the Divine. He states that from experience there is recognition of four basic attributes that define the divine nature. The recognition is that:

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[14] Ibid.

[15] John Polkinghorne, *Science and Theology: An Introduction* (London: SPCK, 1998); John Polkinghorne, "The Metaphysics of Divine Action," in *Chaos and Complexity: Scientific Perspectives on Divine Action,* ed. Robert John Russell, Nancey Murphy and Arthur R. Peacocke (Vatican City State: Vatican Observatory Publications, 2000).

[16] Polkinghorne, *Science and Theology*, 67.

> 1) there is a Mind of a divine Creator behind the pattern and structure of the universe.
> 2) there is a will of a divine Creator behind the unfolding history of the universe
> 3) there is One who is worthy of worship and obedience
> 4) there is One who is to be trusted as the ground of hope.[19]

He offers experiential evidence and rationale for each observation stated above.

The first observation is indicated by "the orderliness, continuance, and fruitfulness" of the world. He cites the "rational beauty" of mathematical equations that describe the "structures of reality."[20]

> It is a technique of proven fruitfulness in fundamental physics to seek those theories whose expression is in terms of beautiful equations...equations associated with such qualities as economy, elegance, and something the mathematicians call being 'deep,' the discovery of profound consequences inherent in the structure under consideration ... Mathematical beauty is... a guide to successful theory choice. Dirac and Einstein's success stemmed from a search for beautiful equations.[21]

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[17] Ibid.

[18] Ibid, 68.

[19] Ibid.

[20] Ibid, 72.

[21] Ibid.

The rational beauty behind the structures of reality indicates to Polkinghorne the Mind of the Creator as Source of such beauty and intelligence. A similar understanding was expressed by the ancient philosophers such as Pythagoras, Plato, Aristotle, and Philo. With Complexity Theory, the transcendence of forms continually witnessed in all levels of reality can be described by non-linear differential equations and this is a mathematical beauty that is phenomenal. Polkinghorne is saying that realizing this mathematical beauty indicates to the theologian, "but not the atheist," the Mind of God.

From further experience, in the field of Biology, "it is the processes that are of interest."[22] He cites Stuart Kauffman's work in Complexity Theory which for Polkinghorne

> offers the first steps in the direction of understanding the astonishing **drive towards increasingly elaborate forms of life** present in evolutionary history, and they encourage the view that this fruitful tendency was **inherent in the self-organizing chemical properties of matter, in the same way that these properties themselves were inherent in the quark soup following the big bang.**[23]

The findings from Complexity Theory as expressed by Stuart Kauffman are cited by Polkinghorne as evidence of "the divine will of the Creator behind the unfolding history of the universe," i.e. the second attribute listed above. Therefore, another way that the relationship from human to divine is experienced is as one perceives in the processes of nature the mode of Divine Action in the rise of complex forms. The relationship from the divine to the world of matter is that behind the "increasingly elaborate forms of life" is the divine "will." In the *Metaphysics of Divine Action* he will discuss his view of how this interaction occurs, but here he is saying the increasing buildup of forms is how the

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[22] Ibid., 77.

[23] Ibid., 78.

Divine interacts, and this he describes as God's will. Polkinghorne is using the *language* of "will" because traditionally this is the expression used by theologians to indicate God's purposes being realized in human life, in both the Person to person relationship and the former dualistic Supernatural-Mechanistic worldview, but he is advancing it. Polkinghorne is saying that the "will of God" in nature is an analogue of the will of God witnessed in the lives of individuals in societies. God's interaction is the same witnessed in nature, as that in the human being, and in the structures of society, and that could not be said by theologians who proscribed to the mechanistic view of nature. This is God's mode of acting, the gradual buildup of increasingly complex forms.

For Polkinghorne, the rational scheme offered by Complexity Theory even in contrast to that of traditional evolutionary biology operating on chance and random mutation offers a view more compatible with "the creative purposes of God."[24] "Creation is allowed to make itself, to discover and realize its potentiality through the shuffling explorations of possibility and contingency."[25] Polkinghorne states that the natural creative processes described by Complexity Theory indicate, for the theologian, God's continuous guidance in creation, God's immanence, which brings about the transcendence of forms.

Regarding cosmological beginnings, Polkinghorne states that the doctrine of creation is not about temporal origin, but ontological origin, it is concerned to show why things exist, not how.[26] He states that whether the world began as a Big Bang or as quantum fluctuations does not matter, for the doctrine of creation seeks to show God as the reason for creation. In this sense, God is Source, present in the earliest processes and continuing forward.[27]

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[24] Ibid., 77.

[25] Ibid., 79.

[26] Ibid., 80.

Regarding his third principle that there is One worthy of worship and obedience, he states that there is no reason to place any less value on the "objective" world of nature. "The world we live in is value-laden." Our aesthetic experiences attest to a world of beauty in the world of nature and in the creation of culture. The second is an extension of the first. Regarding our ethical intuitions, he notes that no society is ethic-free, all societies live by moral codes, albeit with many variations. He points to Thomas Aquinas who asserts that human ethics must have their derivation "in a cause of being, goodness, and perfection, and this we call God."[28] The relationship for Polkinghorne of God to matter in terms of values such as beauty, aesthetic appreciation, and ethics is that God is Cause throughout all creation, nature and culture. Through senses and the mind then, the relationship from the natural beauty of nature and the existence of the ethics of culture to the Divine is enhanced when one perceives that such is from God as Cause.

"There is One who is to be trusted as the ground of hope." For this principle, Polkinghorne offers the following:

> Despite the pain and suffering of the world, there is a deep human intuition that, in the end, all will be well, that ultimately history makes sense. Peter Berger, in his analysis of 'signals of transcendence' present in everyday life, draws our attention to the phenomenon of a parent comforting a frightened child who has woken up from a nightmare. The mother or father conveys to that child the reassurance necessary for its humane development by saying, 'It's all right.' Berger asks the question whether this is a loving lie or a deep insight into the nature or reality. He suggests that it is the latter, a sign of the hope that lies at the

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[27] Ibid.

[28] Ibid, 82.

heart of humanity, notwithstanding the bitterness present in human experience.[29] Experience attests to a "deep human intuition" that all will be well, and this intuitive understanding indicates that there is "One who is to be trusted," that even beyond the rise of forms in nature, that there is hope for our existence beyond this world.[30] From the world of matter to the Divine, intuition furthers the relationship, an intuition of hope, based on the continuance and rise of forms in nature.

From human experience combined primarily with perspectives from Complexity Theory and Mathematics, Polkinghorne has offered four insights on the Divine nature. Polkinghorne stated however, that his method was "analogical." For Kauffman the view of Complexity Theory is not merely "analogical" for human life.[31] There is something "deep" and "fundamental" about the dynamic processes of life, processes which are the same from quarks to human beings to human society.[32] Polkinghorne conveyed the relationship from God to the world as divine immanence as God's continuous guidance in the natural creative processes described by Complexity Theory. However, in his statement of the four attributes of God, in terms of divine action the relationship from God to the World was only regarded from the standpoint of the Mind and will of God. This view is more clearly brought out in his *Metaphysics.* Energy which is required for natural processes was not associated with the Divine nature itself, drawing a sharp distinction from the Creation and the Divine, with divine input explicated only as Mind.

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[29] Ibid.

[30] Ibid.

[31] Stuart Kauffman, *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity* (New York: Oxford University Press, 1995), 24-25.

[32] Roger Lewin, *Complexity: Life at the Edge of Chaos*, 2nd ed. (Chicago: University of Chicago Press, 1992), 30-31.

In *The Metaphysics of Divine Action*, Polkinghorne states that for a system which is experiencing chaos (the turbulent transition phase) it is the "strange attractor" which "represents the envelope of possibility within which its future motion will be contained."[33] "Through sensitive responses to infinitesimal disturbances" different "patterns of possibility" are brought out.[34] It is at this point where openness and novelty are possible.[35] He calls it a "gap" in causality wherein divine causal Agency possibly could be at work.[36] God as Agent inputs "active information" which acts as a "top-down influence" on the system in question, whether, mind, body, or creation.[37]

This active information he states is "not in terms of a transaction of energy."[38] He cites two reasons for energy not being necessary: 1) the emergent feature of the system comes about through a "*monoenergetic* strange attractor" and, 2) he cites communications theory in which there is a transfer of units of information with "minimal transfers of energy."[39] Regarding the first, the system is open, taking in energy, substance, information in subtle and varying degrees. The system reacts, is triggered by this environmental input and then feedback loops within the system may emerge giving rise to a strange attractor. Natural systems are not closed and therefore can not be described as monoenergetic. Saying that the strange attractor is monoenergetic does not take into account that the new attractor would not have appeared if there was not an input of new energies. Which brings us to reason number two cited above, the statement that there is a transfer of information without (or with minimal) energy. Even in communications theory there is as he states a "minimal" amount of energy needed in the transfer of information. Chaotic systems, to quote Polkinghorne, are extremely "sensitive" systems, this is well known as the Butterfly effect.[40] According to Willem Drees, "there seems to be no basis in physics for the claim that there is transfer of information without transfer of energy."[41] The tiniest bit of energy cannot be discounted, and may, according to Chaos Theory, cause dramatic effects. In human communication, sound waves carry information, not to mention the energy required to keep the human body and brain functioning as described above. In computer systems, though it only takes a minimal amount of energy for the transfer of 0's and 1's across a millimeter, energy is required for storage, processing, and retrieval of this information. Polkinghorne's position that God interacts with humanity and creation through open processes is appreciated, but the position that this occurs without energy input is untenable.

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[33] Polkinghorne, "*Metaphysics*," 153.

[34] Ibid.

[35] Ibid., 152-53.

[36] Ibid., 153-54.

[37] Ibid., 154.

[38] Ibid.

[39] Ibid., 153-55.

The relationship of God to matter for Polkinghorne was described in *Science and Theology* as God's continuous guidance in creation, God's immanence, which brings about the rise of complex forms. In *Metaphysics* he further develops this concept stating the relationship of God as Agent inputs "active information" which acts as a "top-down influence" on the system in question, whether, mind, body, or creation bringing novelty to what was there previously. However, if the Divine-matter relationship is analogous to systems in nature experiencing increasing complexity, then this relationship must also include energy, whether we are speaking analogously of the Divine or otherwise.

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[40] Ibid., 153.

[41] Willem Drees, "Gaps for God?," 227.

Regarding special providence, in *Science and Religion*, Polkinghorne asks, "How does God do particular things in particular circumstances?" "Miracles are unique events and not recurring phenomena."[42] Science is concerned with repeatability. A view of God as a "celestial conjurer" is an "unacceptable" view of divine Action even in its more specific form of special providence.[43] "Whatever the explanation may be it must come out of a view of the world as a whole and be consistent with the way God works in nature."[44] From a Complexity Theory perspective, Polkinghorne brings to the readers attention natural events which produce **a phase transition** bringing about a new order: Take the example of the boiling of water. "The transition at 100 degrees Celsius from the liquid regime to the gaseous regime would astonish us if we had not seen it happen a hundred times a day."[45] Another example offered is the transition in metals from a conducting state to a superconducting state. "It is a familiar fact that a change in regime can produce dramatic changes in behavior....the laws of nature do not change at these transition points but their consequences do so dramatically."[46] There is "underlying continuity" with "superficial discontinuity."[47] While he does not offer a scientific explanation of miracles he does offer the following suggestion that "the theological attempt to understand miracles must seek to pursue a similar strategy."[48] What he is saying is that, in an attempt to explicate miracles, a fruitful avenue of approach may be to analyze the concept from the framework of Complexity Theory, particularly from the notion of "phase transitions which produce new orders."

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[42] Polkinghorne, *Science and Theology*, 92.

[43] Ibid, 92.

[44] Ibid.

[45] Ibid.

[46] Ibid.

[47] Ibid, 93.

Overall, For Polkinghorne, God's mode of acting, the relationship of God to the World, is in the gradual buildup of increasingly complex forms. God is Source, present in the earliest processes and continuing forward.[49] What he means by this is not ontological immanence. He means, God is the reason for creation and God affects top-down processes, like a CEO is present in a business, a wholly ontological other than the employees, retaining the Person to person model. This relationship of God to World is one of continuous guidance however, for Polkinghorne, God is wholly other, One who interacts with creation. He seeks places and times where God's intervention can be inserted. From the science of complexity, the arising of a strange attractor is the place where he inserts divine Action. Strange attractors however arise from the constituents of the environment and are fed by energy. Starve the system of these elements and there would be no arrival of a strange attractor.[50] Overall, Polkinghorne's concept of divine action as Mind is too narrowly abstracted from what is occurring in nature which he says is his analogue, and it is also sporadically interventionist in nature. The relationship from human to Divine was described as perceiving the Intelligence and Will of God in Creation, the ethics evident in all cultures, and a fundamental intuition of trust and hope.

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[48] Ibid.

[49] Ibid.

Like Philo he is saying to draw nearer to the Divine educate yourself on the Forms and further, the processes in nature.

Arthur Peacocke:
Religious Experience Mediated through Matter

In *Theology for a Scientific Age,* Arthur Peacocke addresses the difference between mediated and unmediated communication from God.[51] This distinction he addresses based on William James' categories in *The Varieties of Religious Experience* and Brown and Swinburne's assessment that indeed these are separate categories of Divine interaction.[52] Peacocke rightly concludes that all communication is mediated. The human being is within the world and a part of the world, the person has become who she is through life long experience, through sense data and knowledge. The various brain states which allow for experience with the Divine, from the unconscious to the conscious involve the storage of symbolic forms of meaning, including Jungian archetypes, which have at one point been mediated through the constituents of the world. He concludes there is no unmediated communication with the Divine.[53]

In "God's Interaction with the World: The Implication of Deterministic 'Chaos' and of Interconnected and Interdependent Complexity," Peacocke employs the insights from systems theory.[54] He states that this article is a "summary," "clarification," and

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[51] Arthur Peacocke, *Theology for a Scientific Age: Being and Becoming – Natural, Divine, and Human,* enl. ed. (Minneapolis: Fortress Press, 1993).

[52] Ibid., 202-09.

[53] Ibid., 209-10.

[54] Arthur Peacocke, "God's Interaction with the World: The Implication of Deterministic 'Chaos' and of Interconnected and Interdependent Complexity," in *Chaos and Complexity: Scientific Perspectives on*

"development" of *Theology for a Scientific Age: Being and Becoming – Natural and Divine.*[55] From the modern fields of scientific inquiry such as "statistical properties of assemblies," and "quantum dynamics" Peacocke considers "chaotic and dissipative systems" as the most fruitful for conveying the nature of Divine Action (the relationship from Spirit to matter).[56] In systems whose outcomes can only be offered in terms of probability and in quantum indeterminacy there is an openness which exists to place the so-called "causal joint" which might be postulated as an opportunity for divine "intervention."[57] Peacocke rightly rejects this as "interventionist" Divine Action in the "gaps."[58] He prefers the insights offered by Complexity Science of "whole to parts," influence and "top-down causation" as a model to explicate Divine Action, the relationship from Spirit to matter.[59]

Peacocke expresses a panentheistic view, the world is "in God" yet, "ontologically distinct from God."[60] He states, in regard to the findings from the Science of Complexity,

> that these new perceptions of the way in which levels within this world-system interact with each other (from higher to lower and *vice versa*) might provide a new resource for thinking about how God interacts with the world-as-a-whole."[61]

Divine Action., ed. Robert John Russell, Nancey Murphy, and Arthur R. Peacocke, 2nd ed. (Vatican City State, Vatican Observatory Publications, 2000). 282.

[55] Ibid., 263 n.1.

[56] Peacocke, *God's Interaction with the World,* 266, 279, 282.

[57] Ibid., 281-82.

[58] Ibid, 278.

[59] Ibid, 282.

[60] Ibid.

[61] Ibid.

God would be “uniquely present” to all the world “all its individual component entities, in and at all spaces and all times, in [all] relativistic frames of reference”[62] The whole to parts model from Complexity Science allows for this model of Divine influence without “abrogating the laws and regularities” and without interventionism.[63] The italicized “vice versa” above is in reference to our interaction with God, through “prayer, worship and the sacraments, decisions, and actions.”[64] This model eliminates need for any such “causal joint” between God and the world “for defining the problem in such terms” as the causal joint is “inappropriate” for “it does not do justice to the many levels in which causality operates in a world of complex systems interlocking in many ways at many levels.”[65]

The understanding of the brain as a complex system provides for Peacocke a model for Divine Action to be combined with the model above, of God acting in a “top-down” manner. “The brain in the body is a dissipative system.”[66] There is a top-down relation between conscious mental events which trigger physico-chemical changes at neurons.[67] The total brain state acts as a “constraint” on the micro-level of the individual neurons.[68] As God interacts with the world as a higher system acts upon lower systems, God’s intentions may be described in the language of personal agency, God as “Agent” influencing the world as the brain acts upon the micro-level of individual neurons.[69] God's agency is "analogous to an input, a flow of information, rather than energy."[70] In this sense God influences "particular events, or patterns of events, as expressive of the purposes of God."[71] Also, as the brain acts as a "unifying" and "centered influence" on the body, by analogy God can be viewed as a "unifying" and "centered influence" on the world as a whole.[72]

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[62] Ibid., 282-83.

[63] Ibid., 283.

[64] Ibid., 287.

[65] Ibid., 282.

[66] Ibid., 276. Complex adaptive systems are dissipative systems in that they export energy.

[67] Ibid., 275.

[68] Ibid.

For Peacocke, God as Spirit is described in terms of Person and Mind, while maintaining ontological distinction. The Spirit's relationship to the world is as top-down influence, as brain upon body yet, while maintaining ontological distinction. God acts as centralizing, and unifying Agent, as in complex systems, yet again, while maintaining ontological distinction. Matter is defined in terms of interlocking levels as described by Complexity Theory. How we relate to God is through the typical person to Person models of "prayer, worship and the sacraments, decisions, and actions."

On the following matters there is disagreement with Peacocke: 1) He states that both models, how the brain influences the body and top-down causation offered by Complexity Theory, are understood to be "metaphors" for him, which he himself understands is "limiting."[73] 2) He states that the "I" experienced in the body does not transcend the body as God transcends the world and as "God is ontologically other." 3) This model offered for divine influence is envisaged as "analogous to an input, a flow of information, rather than of energy."[74] And 4) there is found in both Polkinghorne and Peacocke's thought an over emphasis on God's interaction as purely Intellectual, stated in terms of a flow of information, at the cost of other divine attributes such as emotion.

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[69] Ibid., 283.

[70] Ibid., 285.

[71] Ibid., 283.

[72] Ibid., 285.

[73] Ibid.

Addressing the idea that God's agency is "analogous to an input, a flow of information, rather than energy,"[75] unlike Polkinghorne, Peacocke states: "we know of no transfers of information without some exchange of matter and/or energy however minimal."[76] And further states that

> the causal effectiveness of the whole brain state on the actual states of its component nerves and neurons is probably better conceived of in terms of the transfer of information rather than of energy, in the way a program representing a certain equation, say, controls the chips in a computer...[77]

This example however, of a computer is an abstraction of how a computer functions. Energy is required for the storage, retrieval, and processing of data, as stated above in the discussion with Polkinghorne. Unplug the computer from its electrical supply, let the stored energy drain, and there is no information processing. Also, in his metaphor the computer program is actually in the computer, so the metaphor breaks down. Regarding the brain as an analogy for God, the "whole brain state" is dependent upon nerves and neurons which are energetic in nature, while the brain state as a whole is also dependent upon energy. Cut off the energy supply, such as food, and the brain, nerves, and neurons eventually die. Neurons themselves communicate through energy impulses. Perhaps anticipating such a response, he states that there is an "ontological gap" between God and the world and the task is to find this gap, "between the nature of God's own being and that of the created world," and then we will understand better this "flow of information."[78] He had said in *Theology for a Scientific Age* that God's action is through God's spirit and this action is mediated through the constituents of nature. By disallowing energy in the process, he abstracts from the normal flow of interactive processes in nature.

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[74] Ibid.

[75] Ibid., 285.

[76] Ibid., 286-87.

[77] Ibid., 276.

Willem Drees:
The World as God's Activity

In "God of the gaps?" Willem Drees responds to Polkinghorne and Peacocke. He has two main points. The first has been mentioned above, "that there can be no transfer of information without a transfer of energy." His second point in response to looking for gaps to place divine/human interaction, he takes a holistic view:

> A promising alternative which avoids such interference is the reflection upon the natural account itself, and especially the themes of the existence, order and intelligibility of the world. Rather than seeking an understanding of divine action in the world, the world itself is understood as God's action. [79]

This holistic perspective addresses problems encountered above. Explanations of Divine Action need not be metaphorical when that action is the world. When referring to "themes of existence, order and intelligibility in the world" Drees is commenting on the processes as described by Complexity Theory and in this science taking into account relational environmental influences is as important as the notion of "top-down causation."[80] Perceiving of *the world itself as God's action* is an inclusive view which does not emphasize the intellectual at the expense of Creation in all its aspects. In the Hermetic Corpus a similar view had been expressed. It is a simple, but elegant proposal.

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[78] Ibid., 287.

[79] Drees, 237.

Lawrence Fagg:
The Spirit and Electromagnetism

Another response to Peacocke is offered by Professor of Nuclear Physics at Catholic University of America in Washington, D.C., Lawrence Fagg in his work *Electromagnetism and the Sacred: At the Frontier of Spirit and Matter*.[81] As a response to Peacocke, he offers "electromagnetic interaction as a conceptual link between spirit and matter."[82] Addressing the importance of energy, which we saw above was discounted in the works of Polkinghorne and Peacocke, he brings out the pervasive nature of energy. Fagg states that "electromagnetic interaction underlies not only the dynamism of the living world but also the vibrant stasis of solid objects in the material world."[83] It is the "glue" that holds together atoms in a molecule, it is the light of photosynthesis.[84] Speaking in the language of complex systems, he states that all biological organisms are "open, far-from-equilibrium systems that exchange matter and energy with their environment for growth and sustenance."[85] In response to the theologians' concepts expressed above that the brain operates on the body as information transfer, he states that

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[80] Ibid., 236.

[81] Lawrence Fagg, *Electromagnetism and the Sacred: At the Frontier of Spirit and Matter* (New York: Continuum, 1999).

[82] Ibid., 63.

[83] Ibid.

[84] Ibid., 59.

[85] Ibid.

"no where is the electromagnetic interaction more completely exhibited than in the brain."[86] Electromagnetic interaction signals to one's mind, both conscious and unconscious, information from the outside world and is how communications within the body occur.[87]

Fagg draws on the work of William James and the mystics, that nature itself relates the Spirit of God to the world. The sacredness of nature has been attested by the mystics, from Job to St. Francis to William Blake.[88] Nature itself, the very "vibrancy" of matter" is the medium for the mystics' communion with God.[89] As he expresses it "electromagnetic interaction is at the frontier of matter with its tendrils probing toward spirit and mind, informing them and responding to them.[90] With this, the relationship of matter to Spirit is for Fagg not merely through Mind, but very expressly through Energy, specifically electromagnetism. Light is electromagnetism as light expresses the vibrancy associated with God's immanence in nature. Throughout history, light has always been an integral feature of spiritual experience.[91] For Fagg, the "light" of the mystics is not metaphorical, it is in its most foundational sense real light.

In *Electromagnetism and the Sacred*, Fagg has brought into focus the necessary and essential nature of energy for informing the mind, in opposition to Polkinghorne and Peacocke. While using the language of Complexity Theory, their views have missed an essential element from Systems Theory that an exchange of energy is required for systems to emerge and maintain themselves. Although they are using the term top-down causation to describe the influence of God on matter, the term is abstracted from a systems view which in its very essence requires an exchange of energy, information, and matter for the emergence and maintenance of any system, including the human being. In the last chapter of *Electromagnetic and the Sacred* however, Fagg states that God's Action in the world is only *analogous* to electromagnetic action, that his view presents a way to make more specific generalizations in the Science and Religion dialogue.[92]

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[86] Ibid., 61.

[87] Ibid., 88.

[88] Ibid, 90.

[89] Ibid., 90.

[90] Ibid., 88, 98.

[91] Ibid., 80.

Wolfhart Pannenberg:
The Spirit as Force Field

Two theologians who take the concept of energy seriously in regard to God's relation to the world are Pierre Teilhard de Chardin and Wolfhart Pannenberg. For Wolfhart Pannenberg, the Spirit *is a dynamic force field.*[93] Borrowing from the findings from Michael Faraday, Albert Einstein, and "systems theory"[94] he conceives of the field as giving rise to new emergent forms with new qualities, with mass being defined as concentrations of force.[95] The source of this novelty is God as "unifying ground of the whole universe."[96] From historical antecedents and the wider context, novelty emerges.[97]

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[92] Ibid., 111-131.

[93] Wolfhart Pannenberg, *Toward a Theology of Nature: Essays on Science and Faith* (Louisville: Westminster/John Knox Press, 1993), 13-14, 47-48.

[94] Ibid., 7.

[95] Ibid., 7, 38, 47-48, 76, 82-83. 100, 103.

[96] Ibid., 8, 13.

What the field concept offers for Pannenberg is a way of making God's *presence* in every single phenomenon intelligible.[98] For Pannenberg, this avoids the God of the gaps theology.[99]

Pannenberg relates how the Spirit as Field can be found among ancient Greek philosophy: For Anaximenes air, *aer*, was the origin of all things; the things of matter were described as concentrations of the air.[100] "In the Greek language, air was also named *pneuma*."[101] According to Pannenberg, in at least one fragment from Anaximenes, *aer* is expressed as *pneuma.*[102] He states also that from Stoic philosophy, spirit was identified as "most subtle matter that penetrates everything and holds the cosmos together by the powerful tension between the parts."[103] The view was expressed above by Fagg in scientific language who stated that the electromagnetic force hold together the constituents of nature. The Stoic view of spirit as finely particled matter presented a problem however for the early Christian theologians, because God could not be considered matter, finely particled or not. Pannenberg observes that difficulties of this

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[97] Ibid., 47-48, 81-87, 149.

[98] Ibid., 39.

[99] Ibid., 78.

[100] Ibid., 124. Pannenberg cites Max Jammer, in *Historisches Worterbuch der Philosophie*, ed. Joachim Ritter, 6 vols. (Basil: J. Ritter, 1971-84), 2:923.

[101] Ibid.

[102] Ibid., 78.

[103] Ibid., 125.

sort no longer pose a problem for identifying the field with Spirit because modern field theories conceive of particles as waves.[104]

From Einstein's concept of the field, space, time, and energy/matter are interconnected.[105] Time is a function of expanding energy/matter in space. At the Big Bang, T = 0. **Pannenberg places God before Time**, which for him is Eternity.[106] God exists co-eternally with creation in Eternity.[107] This eternity constitutes all time (all dimensions of time) and "could be conceived as the production of Time."[108] That God resides in another dimension of time, one that transcends ours, conceptually aids in understanding the phenomena of receiving divine visions of the future. This would be an aspect of God conveying information from the Mind of God.

Pannenberg states that the Spirit is power, it is not just mind.[109] His observation is that "in the history of Western philosophy, **the notion of spirit has been often restricted more or less to the concept of mind.**[110] He notes that this is not the view presented throughout the bible.[111] In the Hebrew Bible, the Spirit of God was associated with **the principle of life** (Gen. 1:2; Gen. 2:7; Ezek. 37:9f; Ps. 104). It is the divine spirit

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[104] Ibid., 40.

[105] Ibid., 48, 100. Faraday had described matter as a concentration of forces, while force is energy. For Einstein, energy equals mass times the speed of light squared, with the understanding from Faraday that mass derives from energy and contains energy.

[106] Ibid., 100.

[107] Ibid.

[108] Ibid.

[109] Ibid., 136.

[110] He specifically cites the philosophies of Augustine, Locke, Hegel, and post-Hegelians. Ibid., 151.

[111] Ibid.

(*ruach*) which is given by God as the breath of life, upon death this spirit is returned to God (Gen. 2:7; Eccles. 12:7). This view is also found in the New Testament: The last words of Jesus in the gospel of Luke reflect this returning of the divine spirit back to God (Luke 23:46). For Paul, the living being originates from the divine spirit (1 Cor. 15:45), while the mind is the highest ability of the human soul.[112]

> The reflective nature of the human mind represents a particular form and degree of participation in the spiritual power, and that is closely connected with the particular mode of human self-transcendence.[113]

The spirit is the soul transcended.[114] The biblical view of spirit is first and foremost the power of life, according to Pannenberg. "The life-giving activity of the divine spirit determines the horizon for all other functions"...such as mind, wisdom, artistic abilities, intensified life, and an exceptional share of the spirit.[115]

That the spirit is a) a power, and b) one that is cosmologically pervasive stems from a combination of biblical concepts and ancient Greek philosophy, which leads to his view that the Spirit is the force field. Concepts from Greek philosophy were addressed above while biblical concepts of spirit as energy were brought out in the introduction. Field theory will be employed below in the work of Lynne McTaggert. Overall, Pannenberg's association of field theory with the spirit has been abundantly applicable however, there are issues which arise.

In Pannenberg's concept of the field, he states that he maintains the distinction between God and the world, in the tradition of Aristotle, Philo, and other ancient philosophers covered in Chapter Two.[116] Pannenberg states that this distinction must be maintained because the sin and evil in the world cannot be associated with God.[117] First, while this view of strict distinction is expressed in some biblical passages, it is not maintained in others (particularly Genesis 2:7, which he himself had brought out). Pannenberg had already shown how the divine *ruach* was the source of life for human beings, and that this spirit returns to God upon death. This is not maintaining a distinction; the divine soul is intimately a part of each human being according to Genesis 2:7. In Genesis 6:3, the Divine grieves for this spirit to be returned precisely because the human line has been compromised by an outside source, the sons of God, the results of which are "wickedness" and "thoughts of evil" (Gen. 6). This corruption is the cause of the limit to the life span and not merely because, as Pannenberg states, "human beings are only flesh."[118] In the introduction, in the work of G.T. Montague, Montague cited various biblical examples wherein the human spirit becomes quite defiled and can no longer communicate clearly with the Divine Source of said spirit. Also, the need for cleansing and re-generation of the defiled spirit is found particularly in the prophetic writings.

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[112] Ibid., 124.

[113] Ibid., 136.

[114] Ibid., 124.

[115] Ibid.

Turning to his field concept itself, while Pannenberg's concept of the field reflects Einstein's concept of the interconnectedness of space, time, and matter, it does not seem to reflect the field concept of the connectivity of matter itself through the exchange of electron valence as in Fagg's assessment. Due to the nature of quantum phenomena, the Field is infinite in its reach and interpenetrating. In Lynne McTaggert's work cited below, she will bring out this aspect of the Field.

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[116] Ibid., 12.

[117] Ibid.

[118] Ibid, 125. The Divine limits the life span immediately after the intermixing and not before. According to 6.1-4, the lifespan is limited not because of anything the humans did but because an outside species, the sons of God, had corrupted the human line. The "wickedness" and "evil" thoughts are only indicated after this encounter (Gen. 6.1-8).

Pierre Teilhard de Chardin: Spirit and Matter defined in terms of Energy

In *Activation of Energy* based on early research on complex systems, Teilhard regards spirit and matter as being "synonyms" and as "two sides of one and the same object."[119] In fact, he can say, "there is nothing in the universe except spirit."[120] So, in one respect the relationship of spirit to matter is a non issue, because matter is spirit. Regarding the afterlife, his view is again taken from complexity theory, that a new emergent order will emerge from the old, a trans-human into a higher state of organization and consciousness.[121] What then is the relationship of Spirit to spirit/matter? Taking into account the extreme evolutionary process, as described by Laszlo above, each individual center (whether an atom or a human being) extends back in time to the origin of things and into the future to the other extreme, as a part of the unity of the whole.[122] "All possess the property of being infinitesimally co-extensive with the totality of time and space."[123] Of the relationship of Spirit to spirit he states "we must retain the primordial transcendence of God."[124] One relationship of Spirit to spirit for Teilhard is the incarnation of Christ in the world, another is love, and yet another is the mind rising in consciousness, as Philo had said earlier, through understanding the nature of the universe. For Teilhard, "from the piled up facts, consciousness *emerges*."[125] The nature of the universe as explained by Teilhard is the increasing organization of forms leading to emergence of new forms. Spirit is at its very essence an ascending movement, a drive and call towards the Above, towards transcendence.[126] This reaching up, sparks an energy which ignites the emergence of a higher order of being.[127] This is the connection to the Transcendent Spirit for Teilhard, once again defined in terms of complex systems.

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[119] Pierre Teilhard de Chardin, *Activation of Energy* (Orlando: Harcourt Brace Janovich, 1979), 124-25.

[120] Ibid., 125.

[121] Ibid., 268, 371.

[122] Ibid., 260.

[123] Ibid., 261.

Lynne McTaggert:
Energy and Light from the Field, Light in Brain Matter

In Lynne McTaggert's work, *The Field: The Quest for the Secret Force of the Universe*, she also identifies the Divine Spirit with the Field, as did Pannenberg. For her, the Field is intimately connected with the world of matter.[128] As she relates, modern quantum field theory acknowledges the Zero Point Field.[129] The Zero Point Field was previously the vacuum of classic physics; it is called 'zero' due to fluctuations in the field which are still detectable in the lowest energy state, temperatures of absolute zero.[130] This is a ground state field of energy which constantly interacts with all subatomic particles, which intimately forms part of the effervescent universe.[131]

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[124] Ibid., 262.

[125] Pierre Teilhard de Chardin, *The Phenomenon of Man* (New York: Harper and Row, 1959), 78.

[126] Ibid., 278.

[127] Ibid., 280.

[128] Lynne McTaggert, *The Field: The Quest for the Secret Force of the Universe* (New York: HarperCollins, 2002).

[129] Ibid., 19.

> "The basic substructure of the universe is a sea of quantum fields...with subatomic particles fleetingly popping in and out of existence."[132]

Energy exchange occurs between subatomic particles which appear out of nowhere.[133] If God's Spirit is the Field, then there are constant exchanges of energy with this Field, it is a two-way exchange. This exchange causes fluctuations which leads to, as Laszlo described above, knots of energy which become the things of the universe.[134] The energy of this Field is more than is contained in all the matter in the world.[135] It is extremely energetic and in constant interchange with Creation. When the Spirit is viewed as the Field, then the Spirit is intimately connected to everything in creation through energy exchange.

In.*The Field*, McTaggert discusses the interconnection of the Divine and matter in terms of light and the quantum field.[136] Not only are we constantly receiving quantum energy from the Zero Point Field, but our bodies themselves take in these photons.[137] Every body receives, stores, and emits photons, from plants, to animals, to humans.

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[130] Ibid., 19-20.

[131] Ibid.

[132] Ibid.

[133] Ibid., 19.

[134] Ibid., 23.

[135] Ibid., 19.

[136] Ibid.

[137] Ibid., 52-53, 95.

Light is in our DNA.[138] Cellular communication within the body is through photonic exchange. [139] Photons travel as waves of energy throughout the body.[140] Within the neuronal cells of the dendrites are microtubules which function as scaffolding maintaining the structure and shape of cells.[141] Within the cells, the microtubules radiate outward transporting various products including photons.[142] These microtubules are 'light pipes' for photons, sending waves from cell to cell throughout the brain and body, but are especially concentrated in the neurons.[143] The concept of enlightenment is not metaphorical, it is literal. Light (photons) enters our bodies and travels as waves throughout the brain, bringing encoded information. McTaggert states, in this way, intuition and creativity may be received from the Field beyond this Time dimension, from the Divine.[144]

Jurgen Moltmann: Mystical Experience of Divine Energy and Emergence from Energy

In *The Spirit of Life*, Jurgen Moltmann takes a holistic approach to his analysis of the Spirit, using Complexity Theory, biblical sources, and Mysticism to inform his view that the Spirit is the creative, dynamic energy of the universe creating higher order systems.

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[138] Ibid., 42.

[139] Ibid., 52-53, 95.

[140] Ibid., 88.

[141] Ibid., 92.

[142] Ibid.

[143] Ibid.

[144] Ibid., 95.

By specifically incorporating concepts from Complexity Theory, Moltmann describes the Spirit as the dynamic spirit of the universe creating higher order systems. From the elementary particle, to the atom, the molecule, macro-molecular cell, multi-cellular organism, living organism, organism populations, living things, animals, human beings, human population, to the community of humanity – the energy that creates and sustains these systems is "divine energy."[145] This energy the Chinese call chi and in Hebrew *ruach,* which as Moltmann describes, "interpenetrates all of life."[146] In nature, there is an exchange of energies and a forward movement of more complex order, and this energy Moltmann identifies as the Spirit of God.[147] It is in this sense that "God is in all things, and all things in God."[148]

Moltmann specifically states that "in opposition to Augustine's pneumatology in which body and God are in opposition" he cites the mystics' embodied approach to experience of the Spirit.[149] According to Kant, in *Critique of Pure Reason* we cannot know God as the *Ding an sich*, but, says Moltmann we can "experience God."[150] From the Desert Fathers to Hildegard of Bingen, the mystics "have repeatedly described the closeness of God as "illuminating and flowing waves of energy."[151]

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[145] Jurgen Moltmann, *The Spirit of Life: A Universal Affirmation* (Minneapolis: Fortress Press, 1992), 225-27.

[146] Ibid., 9, 11, 227.

[147] Ibid., 10, 225-7.

[148] Ibid., 35.

[149] Ibid., 84.

[150] Ibid., 31.

[151] Ibid., 275.

In the bible, the Spirit is described in terms of "flowing," "outpouring" and "a shining" expressions which indicate "emanationism."[152] *Charisma* is described in terms of power and energy, *dynamis* and *energeia*."[153] The Spirit is ever present, though in particular can be experienced as the Spirit of Christ. As such, Paul's use of "in Spirit" Moltmann equates to a "divine field of force."[154] In reference to the miracles and healings of the bible he states that these "energies" of the Divine Spirit are most definitely "not supernatural gifts," but "powers of the new age."[155]

Nancey Murphy and Warren Brown: Emergent Systems and Higher Consciousness of Morality

Murphy and Brown examine the connection between mind and matter in *Did My Neurons Make Me Do It?* They take a holistic approach, incorporating the insight from Complexity Theory of the importance of environment on the functioning of any living system.[156] The old way of studying mind in opposition to matter excluded not only the rest of the body, but more importantly the environment.[157] Murphy and Brown state that "the apparent insolubility of the problem of mental causation is due to a residual

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[152] Ibid., 195.

[153] Ibid.

[154] Ibid.

[155] Ibid., 74.

[156] Nancey Murphy and Warren Brown, *Did My Neurons Make Me Do It? Philosophical and Neurobiological Perspectives on Moral Responsibility and Free Will* (Oxford: Oxford University Press, 2007), 37, 80, 84.

[157] Ibid., 37, 113.

Cartesian view of mind as interior and effectively disembodied."[158] Citing the work of neurophysiologists such as Juarrero, Clark, Edelman and Tononi, they discuss the mind as embodied and embedded in a contextualized environment of "action-feedback-evaluation-action loops," the language of Complexity Theory. What happens around us affects us internally. "Higher-order consciousness is a developmental achievement dependent on social interaction and internal scaffolding."[159] Internal scaffolding is defined as a high degree of interconnectedness of neural groupings in the brain linked to high frequency brain waves. They quote Edelman and Tononi's thesis of consciousness in terms of transcending previous neural states through a rapid integration of a high volume of signals both internal and external.[160] External scaffolding is what the environment presents in terms of symbolic language. Increasing the level of systems of learning leads to a "process of self-transcendence."[161] The emphasis of Murphy and Brown's book is a non-reductionist approach to moral action, meaning morality is not reduced to atomistic features, but rather an internal integration of education in terms of symbol systems from the environment.[162]

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[158] Ibid., 209.

[159] Ibid., 143.

[160] Ibid., 142.

[161] Ibid., 305.

[162] Ibid., 48.

Bruce Lipton:
Consciousness and Healing

In *The Biology of Belief*, medical doctor Bruce Lipton explains how our thoughts impact our bodies. The placebo effect has long been documented in medical research.[163] Lipton includes an interesting study in which patients came in for knee surgery, were put under anesthesia, but did not actually have the surgery, though they thought they had. Physical therapy was proscribed for the patients, as with the patients who actually had the surgery. In time, both groups, those who actually had the surgery and those who did not, reported the same positive results with no significant statistical differences between the groups. The belief that the knee patients had had surgery was as effective as the actual surgery.[164] Lipton's research also looks at the reverse, the nocebo effect, how negative thoughts affect the body.[165] Negative thoughts produce stress on the body in the forms of an adrenaline response. Adrenaline is communicated via the brain to the central nervous system, which in turn can override the bodies normal functioning.[166] Under normal circumstances, all the cells in the human body are replaced by new cells over a seven year period.[167] Each cell has a protective function and a growth function.[168] Adrenaline chemically inhibits on a cellular basis the energy needed for cell growth by diverting needed energy to the protection mode of cellular activity.[169] Necessary chemical nutrients are not taken into the cell because the cell is shut down in its protection mode.[170] The body stops replenishing itself due to negative thoughts.

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[163] Bruce Lipton, *The Biology of Belief: Unleashing the Power of Consciousness, Matter, and Miracles* (Santa Rosa, CA: Mountain of Love/Elite Books, 2005), 140.

[164] Ibid, 137-41.

[165] Ibid., 142f.

[166] Ibid., 150.

[167] Ibid., 151.

[168] Ibid.

Lipton carries forward his discussion of how thoughts affect our lives. Perceptions influence our actions, which when repeated become habits, and overtime our life course is changed for good or for bad.[171] Positive perceptions, put into action produce positive affects, blessings. Perceptions are learned. Parents are "not simply spectators in their children's lives." [172] Research over the last decades shows that "parents have overwhelming influence on the mental and physical attributes of the children they raise."[173] What we say, year after year to our children greatly affects who they are. Words have actual affect upon the health and well-being of an individual. They impact us emotionally, mentally, and physically at the cellular level. At the core of Lipton's discussion is an antithesis of mechanism: cells are malleable.[174] Electromagnetic interaction comprises cell communication. [175] Internal communication in the body could not occur without photons at the cellular level throughout the body. Words as sound waves enter the body, they are converted to electrochemical signals. Photons race across synaptic pathways and impact our bodies at the cellular level. We are light, through and through. These cells, impacted by the photons, are altered; they are malleable rather than hard and inert, and the cells are physically changed due to words spoken and the ideas conveyed.[176]

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[169] Ibid., 152.

[170] Ibid., 144.

[171] Ibid., 132.

[172] Ibid.,156.

[173] Ibid.

[174] Ibid.,53.

[175] Ibid.

Masaru Emoto:
Consciousness and Matter

Dr. Masaru Emoto, a Japanese scientist and doctor of Alternative Medicine has been conducting research for over a decade on the impact that thoughts and words have on water.[177] The method he uses is to freeze water and examine the structure of ice crystals after the water has been exposed to positive and negative sounds and thought. While his research may appear rather unique, his studies as well as those of Bruce Lipton, Larry Dossey and Bernard Grad cited above are part of a larger class of investigations of the affects of mind upon matter. For over a hundred years, the Society for Psychical Research has published similar findings in their journals (the *Journal of the Society for Psychical Research* and the *Journal of the American Society for Psychical Research*) with the Society first established in London in 1882 and the American branch in 1885 having William James as a founding member.[178] Emoto's first experiments involved investigating the effects of music on water. His research showed that after exposing water to classical music, such as Beethoven's Sixth Symphony, beautiful, well-formed crystals appeared, in contrast to water exposed to heavy-metal music, in which case

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[176] Ibid.,156.

[177] Masaru Emoto, *The Hidden Messages in Water*, trans. David Thayne (New York: Atria Books, 2001).

[178] David Griffin, *Parapsychology, Philosophy, and Spirituality: A Postmodern Exploration,* SUNY Series in Postmodern Thought (Albany: State University of New York Press, 1997), 12. Emoto's studies would be categorized as psychokinesis. There is a tendency in scientific trade journals to neglect such studies because they do not fall within the framework of mechanistic Newtonian science.

"fragmented and malformed crystals" appeared.[179] He then went on to investigate the effects of both positive and negative words directed at water. He discovered that positive words such as "you're beautiful" or "love and gratitude" produced well formed crystals, whereas negative thoughts and statements, such as "you fool" produced deformed crystals. His experiments were repeated multiple times, with people from all walks of life providing the words spoken over the water and always with the same results. He cites an experiment documented with photographs in which the power of prayer cleared up the pollution in a lake.[180]

Emoto's explanation is the following: The entire universe is in a state of vibration, and each thing generates its own frequency unique to it.[181] Sound waves and thoughts carry vibrational energy. Water contains "in-form-ation" and we see this in its ability in general to form ice crystals.[182] When we speak positive words, this information as vibrational energy gets "copied" onto the information of the water, and the frequencies combine and amplify to produce more information upon the water, canceling out the poisons or pollution which caused lack of formation in the water.[183] He quotes the findings of a study from a Japanese university which was conducted to see if sound could be used to eliminate noise. "By identifying the wavelength of the unwanted noise, the researchers were able to create the exact opposite noise," direct it at the first and cancel out the unwanted noise.[184] The idea is that the world is comprised of vibrational frequencies and by adding and subtracting frequencies we can alter matter. Water is pliable matter in comparison to say, lead. Considering that the human body is seventy percent water, Emoto's research pertains to Lipton's, possibly explaining how words can so easily impact the individual. Emoto states that to give your attention to something is a way of giving energy.[185] And he means this literally. He is expressing the concept of amplification that Polkinghorne had suggested may be behind the phenomena of miracles.

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[179] No judgment is being made here concerning heavy metal music in general, just reporting Emoto's findings. Ibid., xxiv.

[180] Ibid., 89.

[181] Ibid., 39.

[182] Ibid., xix.

[183] Ibid, xviii.

Summary and Analysis

Based on contemporary science, Whitehead's metaphysics offers a critique of Newtonian mechanics and states that matter is creative and energetic, which indicates God's presence in nature itself. He offers a panentheistic model. Polkinghorne also cites God's immanence in nature based on the rise of complex forms (but this immanence is only in terms of the open period of the critical threshold). As with Philo, the forms in nature, particularly the mathematical beauty, allow for a closer connection with the Divine. Yet, for connection for the human being and the Divine, interconnection is described in terms of Mind to mind while denying the requisite energy required for mental processes which can not be sustained. While Peacocke states that Divine interaction is always mediated through the constituents of nature, he too dismisses energy as part of this process. According to contemporary science, the constituents of nature are through and through energetic. His concept of Divine interaction as top-down influence as in interlocking complex systems is an abstraction of actual top-down influence as described by Complexity Theory. Interlocking Complex Systems experience an exchange of energy, information, and matter.

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[184] Ibid., 79.

[185] Emoto, 65.

Drees points out the inadequacy of any explanation of Divine interaction which dismisses energy and proposes instead the cosmological model that the world itself is God's Action. Fagg, Pannenberg, Teilhard, Moltmann and McTaggert all define God's interaction, the Spirit of God, in terms of energy. Lawrence Fagg, citing the mystics' experience of nature as sacred, regards electromagnetic activity in nature and electromagnetism as the conveyor of sensory information as the link between Divine Spirit and the individual, while the Hermetic and Manichean traditions also expressed the view of the Divine in Nature. Peacocke had said the Divine experience is mediated, while Fagg is being more specific saying it is mediated through electromagnetism, specifically the bosons. For Pannenberg, citing Greek philosophical precedents, the Divine Spirit is the quantum electrodynamic field as Source of all that exists. Employing Complexity Theory, the Field continually gives rise to new emergent forms. Even though he cites biblical examples of Divine presence and relates this presence to his field theory, he seeks to maintain a sharp divide between God and the world which contradicts the definition of the field. Also, to have God in a higher dimension of Time, mathematically means we, as being in a lower dimension of Time, are in God. While this concept allows God to be transcendent, it does not allow the world to be ontologically distinct from God.

Teilhard de Chardin, on the other hand maintains God's transcendence, but also allows God's very Spirit to not only be in matter, he defines matter as Spirit. It is the essence of Spirit to ascend, and in the movement upwards an energy is ignited creating the emergence of a higher order of being. This higher order of being is described by Murphy as achieved through the external and internal signals received by the body. The brain receives the signals experienced by the body and a higher scaffolding in the brain occurs, (the neural pathways as described above). The more complex the value symbols, the more transcendence is achieved creating a more ethical person. Moltmann brought out that mystics historically have described spirit as energy received through nature, while Fagg also identified this energy experienced by the mystics as electromagnetic energy. In Fagg's last chapter however, he stated that his view of Divine Activity was only analogous to electromagnetism. While McTaggert does not develop the theme as Murphy and Brown has that learning leads to morality, she brings out that the electromagnetic signals from the environment, the background radiation and the biophotons of nature are carried through microtubules throughout the body constituting the connection to the Divine.

Nature reveals formal structure, an intelligence within. In philosophy this intelligent aspect was called *Logos.* For Philo, contemplating the *Logos*, Form, or Intelligence in Nature draws one closer to the Divine, while spiritual education also draws one closer. What Fagg brings out is that all of Nature is filled with electromagnetic activity, which is connective in its essence. This electromagnetic energy emanating from Nature conveys the encoded information from the *Logos* in Nature. We, as a part of Nature, are constituted of electromagnetic energy at the cellular level.

Electromagnetism is also how we learn and grow emotionally, mentally, physically and spiritually. As electromagnetic signals emanate from Nature they enter the brain through the senses, they change neural pathways. In time, new dendrite scaffolding in the brain appears and we potentially become more evolved, depending upon the content of what is received through the senses, depending upon what is learned. Education is also conveyed through our senses, whether light emissions or mechanical sound waves, which get converted to photonic activity and travel to the brain where the information as electrical signals is mapped and stored. Light is the medium of the message and we are literally enlightened. In the Hermetic corpus and Manichaeism, light was an essential part of Nature, in Platonic thought, the world is en-souled, having a living power of its own and intelligent, reflecting the eternal Forms. The above chapters provide in scientific language the view of light, intelligence, and energy in Nature leading to natural transcendence. The interconnection of Light/Spirit/*Logos* to Matter is experienced as light in nature itself which leads to natural emergence of forms, including consciousness.

Conclusion

This study of the connection between Spirit and Matter began with definitions of Spirit from the bible. The Spirit was described as the ontological divine power of life and enhanced physical, mental and emotional (ecstatic joy) power, increasing the faculty of wisdom, prophecy, and creativity, bringing change and transformation. The human spirit, as divine power, is considered on loan from God. It can become defiled and in need of cleansing. It also can become regenerated through hardship and reflection on such experiences and return to God. Particularly, in the intertestamental period, it was described that spiritual education and prayer enhanced the human spirit, and the ontological return of the spirit back to the Divine was possible. In the New Testament, connection from the world of Matter to the realm of Spirit is increasingly understood to be through Jesus as Christ, Son of God, and image reflective of the Divine. It is the Spirit of Jesus who enhances connection for the follower. In Paul's writings their is a process described for followers of Jesus to build up the spirit, both within the individual and among the community, through imitation of Jesus, hearing the word, and making love the aim.

Due to new scientific understandings, early Greek philosopher-physicists in the sixth century BCE provided new cosmological models replacing that of the three-story universe. While cosmological models of the pre-Socratics tended to provide descriptions of the world of matter as divine, generative, intelligent, and an extension of the One Source, later models increasingly described a divide between the world of the matter and the eternal, unchanging, immaterial realm. The models of the geocentric universe placed the earth at the center, surrounded by the orbiting planets, and the fixed, eternal, unchanging realm above. Because the periodic orbits displayed mathematical precision and the world itself displayed mathematical congruity, a Mind was postulated as behind this Order. For Heraclitus and later the Stoics, this Reason was termed the *Logos*, and viewed to be in creation itself.

For Plato there was the eternal, intelligent realm of Ideas or Forms, which the demiurge used as a model to create the world, a world divine, with the Forms used as patterns to make the things of matter. For Aristotle, the world of motion needed a First Cause and so behind the world of change he posited an Unmoved Mover, who starts motion, the planets orbiting which mechanistically triggers motion on earth. The sun for Aristotle was a particularly potent source of change, motion, generation, and decay on earth. The connection between the Eternal and the world of matter for Plato was the Forms; the connection for Aristotle was mechanical motion. Imitation and reflection on the Forms and Order of en-souled nature brought one closer to the Eternal realm for Plato. The soul was immortal and could return to the Spiritual realm, the fixed stars if it was tended and nourished on things divine, particularly the eternal Ideas in Nature. Platonic and Stoic thought would be carried over in Philo's philosophy, who employed the concept of the *Logos* in Nature as connective bridge between God and the world. Philo also regarded prayer, purity of spirit and education as means to enhance the connection.

In middle Platonism, the distance between the two realms increased with additional layers of spiritual realms placed between the two, with the realms themselves conceptually developed from the planetary orbiting spheres. Gnosticism placed the Unknown God who was beyond all description, beyond the furthest realm in a spiritual realm of Light in contrast to the world of Matter, which was considered a prison of darkness, a counterfeit copy of the spiritual realm and ruled by archons of fate. The rulers of fate were the planetary bodies, whose controlling influences could be felt on earth, a development from Aristotle's thought, and the world of dark matter itself clouded knowledge of self. The Gnostics expressed the view that controllers, particularly religion and its rules, were not the way back to the Divine, but instead what was needed was an awakening to the divine spark of light within. Once one understood this there was salvation from the darkness of this worldly prison.

The Gnostic sect of the Manicheans had a more positive view of matter; it was considered a mixture of both light and darkness. The stars above in the heavens acted as a beacon calling one homeward, the light in plants provided soul nutrition, the words of the savior, Jesus and the teachings of Mani provided spiritual light for a return trip to the spiritual realm of Light. An important practice for the Manicheans was hymn singing, which was believed to nourish the soul. Pythagoras had described and developed music in terms of mathematical harmonies, reflective of the mathematical orbits of the revolving planets. Music reflected the divine forms and so brought one closer to the Divine. Plato, after Pythagoras, also had discussed music and art in general as divinely inspired, and therefore capable of inspiring others, enhancing the connection to the Eternal realm. From contemporary science, music as sound wave energy conveys information in the form of synchronizing mathematical harmonies and rhythmic pulses of energy taken in through sense receptors, increasing the connection to the Intelligent Forms, the *Logos* in Nature.

The writings from the Hermetic corpus expressed an even more positive view of matter. As with some pre-Socratics, Plato, and the Stoics, matter was considered divine. In Hermeticism, the world was considered an extension of the Divine Light, containing the "energies" of God. There was no sharp divide between the Spiritual realm and the world of matter, matter was simply a downward extension of the Divine Light and contains divine energies. Hermetic Cosmology described an enveloping structure of the individual in the world and the world in God. The idea of correspondence was expressed that what happens above in the macrostructure, happens below in the microstructure. As God's energies produce a Cosmos, and the Cosmos produces human beings, human beings produce the arts and sciences. Taking the epistemological concept of the *Logos* even further than Heraclitus, the Stoics, and Philo, in Hermeticism in order to obtain knowledge of God, one learns the science of nature. The senses inform the mind to achieve connection to God for God is all around, manifest in Nature. To investigate these powers or even to contemplate the shining beauty in nature transforms the soul. Matter was considered by the Hermetic philosophers to contain divine energies, and as such their experiments viewed transformation of materials as birth, growth, death, and resurrection. They practiced the belief that **speaking over matter** aided in its transformation. Their research and experiments on matter would be viewed with suspicion and persecution by the orthodox Church.

In Neo-Platonism the soul is considered a fragment of the Cosmic Soul. The Cosmic Soul is an emanation of the realm of Intelligence, which is an emanation of the One. Matter is soul infused containing the *logoi spermatikoi* from Intelligence, the generative principle of life. The soul which contains a higher and lower part, thinks on the *logoi* in Nature, putting one in contact with the One. In so doing, one may become "filled with light." Neo-Platonism promotes mysticism to experience the connection with the Divine. In contrast to Kantian philosophy, Mysticism describes time and time again, throughout the centuries and across cultures, that it is through the senses, and going beyond the senses that the Divine may be experienced. The mystics experience the divine as an illumination which fills the mind, bringing wisdom and insight and even causes the body to radiate. It is a real light. Philo had described the light around as merely a dim version of the divine light. This light experienced by mystics is described as a pulsating energy. Matter is described in the mystic experiences as containing a pulsating power, a greening power, with the ability to transform and heal.

Since the pre-Socratics, many traditions have described matter as divine and an extension of the One. As such, matter contains a living, generative power, and a rational principle, the *Logos*. To connect with the Divine, one purified the thoughts to contemplate the rational principle in nature. The order of the Divine Mind could be seen in the generative forms in nature, in their mathematical beauty, the vibrant power, and especially in the light, order, and beauty of the starry heavens, all of which provide a connection to the Divine through the senses. The traditions of Manichaeism and Hermeticism particularly brought out the concept of matter as light-filled, while the mystics repeatedly experienced the divine light in nature, which functioned as a medium for bringing divine wisdom. This light was experienced as transforming not only the mind, but soul and body. It was the radiant beauty, order, and pulsating light-filled power of matter itself which provided the connection to the Divine.

In contrast, through the centuries orthodox Christianity would gradually narrow and restrict access to the Divine. At first, employing the concept of the *Logos* to apply to Jesus, it was described that while the seeds of divine reason could be seen throughout history, such as that of the law and the prophets, the fullness of the divine *Logos* was found in Jesus. Plato's Eternal Immaterial Realm and Aristotle's Unmoved Mover were gradually re-worked over the centuries to become the hidden, unknowable, transcendent

God sharply separated from the world of matter. The soul, once defined by the Greeks as immortal, divine, source of power for life and wisdom, was no longer considered immortal or divine, but with Augustine considered to be created through one's parents. The soul was believed to be so defiled even at birth that humanity was blinded, incapable of perceiving the Divine in Nature. There were special cases of course, and these mystics would be considered Saints, constituting a separate status from the general population. The Church declared itself to be the barer of truth through apostolic succession. The Church, through its teachings and sacraments provided and became guardians of the doorway to the Divine. In the Reformation, Protestantism shifted emphasis to the words of scripture illuminated by the Holy Spirit as access to the Divine. The very distant God connected to the world of matter through supernatural intervention, with this movement initiated by the Holy Spirit. Mechanistic Newtonian science would be sponsored by the Church, in part, because it disallowed a power in Nature, including a power for human beings to affect miracles. Mechanism provided laws of nature which would give greater uniqueness to the Christian witness of miracles as supernatural events, as God reaching out and interrupting such laws. Invisible power in human beings and in Nature in general was perceived as threatening to the status quo of the ruling elite of the Church.

Contemporary science however confirms the power in matter. By the turn of the twentieth century the science of Electrodynamics would begin to redefine matter from that provided by Mechanistic Science. Whereas Mechanism regarded the smallest bits of matter, the atom, as hard, impenetrable, inert, moving only when acted upon, in essence lifeless, Electrodynamics discovered that matter was alive with energetic activity. The electron circled around the nucleus of the atom at 600 miles per hour, while the neutrons and protons at the center were traveling at 40,000 miles per hour with more space in between particles than matter itself. Matter at its core was energetic and relational. Electrons at the edge of an atom emit light particles, photons, to link with other atoms, forming bonds which provide the basis of molecular structure. It is the photons of light in matter and the exchange of light which allows Forms to arise in nature. In Quantum Physics and Biochemistry it was found that all matter contains information and emotion. The smallest quarks have functions to perform and while following behavioral patterns within their capabilities, they display degrees of freedom, acting spontaneously, anticipating the future, avoiding collisions, and creating bonds to form the larger structures of matter. Emotion and values are displayed such that particles act to avoid collisions, while cells and plants have been shown to experience pain. Matter vibrantly composed of energy and information and value-laden, relays information through the exchange of electro-dynamic and chemical processes, which at its core has been described as communication through energetic light.

The field of Complexity Theory investigates the transcendent nature of matter. Throughout nature there exists the emergence of new phenomena arising out of formerly stable material systems. Water boils becoming the emergent form of vapor, plant life transcends to the emergent form of flowers, conductors become superconductors, and new species arise continuously. Emergence is fueled in natural open systems by the intake of other information-rich matter filled with energy. Complexity Theory identifies a pattern to this emergence which can be described with the mathematics of non-linear differential equations. As matter, energy, and information are taken in, a critical point may be reached which forces the formerly stable system temporarily into a chaotic state. At this "edge of chaos" the system spontaneously re-organizes itself to accommodate the incoming energy, creating a phase transition. A new center of organization emerges and a new pattern of energetic movement forms around this center. The pattern stabilizes and a new Form has emerged.

New creations arise in Nature naturally *when high-grade energy is able to be taken in* and pushes the system to re-create itself. Polkinghorne had suggested that phase transitions may be behind the manifestation of miracles. Waves of energy which come together may adjust their frequencies, as in the phenomenon of synchronicity, and experience amplification, a combined stronger wave with the same frequency. This wave of energy, according to Complexity Theory would if ably appropriated into the old system, create a new order of creation. The mind and entire body generate and emit energy and theoretically could when focused influence another body. Miracles are not unique to the Christian tradition as the Church had claimed in its support of Mechanism. Nature is constantly producing miracles, new phenomena brought about by the influx of information, matter, and energy incorporated creatively into material systems.

The brain is a material system and as such undergoes growth and transformation of its internal networks through receiving information in the form of energy from the environment. One of the most basic ways is through consuming plant life which as the Manicheans and contemporary Biology describe, contains light which fuels the body in general, including the ability to think. Energy is taken in through the senses, whether through photonic emissions from matter itself, or through reading and hearing, and becomes converted into electrical photonic and chemical signals which pulse through the brain. With repeated signals, such as through learning, new dendrites sprout from brain cells and strengthen, increasing the processing ability of the brain. Neurons are comprised of dendrites, which are comprised of microtubules acting as light pipes to relay photonic pulses of energy. With learning there is an increase of dendrites, which increases the number of synapses and allows for greater communication within the brain. Just as in all open systems, emergence of new phenomena may occur when a critical threshold is reached due to the intake of energy, information, and matter. Consciousness has been described as an emergent phenomena occurring when regions across the brain communicate with each other. Enlightenment is literal in that it is light which is traveling through the brain as one thinks and experiences a moment of higher consciousness. Learning creates over time, ontologically and epistemologically, a new being. The nature of what is learned determines what kind of being will emerge.

The brain has developed over time through experience and disciplined learning. The meditating brain is a product of each individual's unique history. Particular tasks repeated build up dendrite configurations and establish flows of photonic light pulses such that the task becomes easier. Just as one who studies math or practices an instrument becomes more proficient, one who studies scriptures and meditates is building up particular hardwiring in the brain, such that scriptural understanding and meditation become easier. In meditation, as certain regions in the brain become quieted and others overloaded with energy, consciousness is sparked, a new emergent thought comes to light. Austin described the levels of consciousness one can attain to, with the results being a detachment from cravings, insight, wisdom, on-going traits of enlightenment, a sense of the one-ness of all that exists, the experience of the self as not bound by time and place, and the sense that there is a flow of events and positive things happen with a light touch. Such was the description of the interaction of the Spirit throughout the bible. Overtime, the individual, through spiritual practices, literally becomes a new person, one who receives on-going enlightenment and understands the world as intimately connected at every level.

The Greek philosophers, from Heraclitus to Plato to the Stoics, and the Hermetic corpus promoted learning about the *Logos*, the intelligent principle within nature. They described how this would increase connection to the Divine, because Nature was understood as divine. Philo promoted learning about the intelligent aspect of Nature because it drew one closer to the *Logos*, which in turn was closer to God. When Nature is considered divine or even a creation of the Divine, learning about Nature is learning about the Mind of God. The *Logos* in Nature is a connection to the Divine. Contemplating the order, transcendent, dynamic, light-filled nature of creation draws one closer to the Source of All. The energies and light in matter are taken in through the senses and become light traveling through the brain, transforming neural networks, leading to Enlightenment and a New Creation.

The Hermetic philosophers believed that Nature was divine and in God. To learn more about God, learn about Nature. They conducted experiments to understand the transformative powers in matter, which to them seemed magical. The research presented by Lipton and Emoto reveal that matter is much more relational and interconnected than Newtonian science allowed, and that we, as a part of Nature, have connections to matter and abilities which we are profoundly unaware. We can impact matter "with the lightest touch," with a word even. Prophets and saints described in the Bible and throughout the centuries have been able to do wondrous things. Contemporary science is beginning to discover that all of us potentially have abilities that we simply are not aware of. Matter defined as relational, information-filled, electro-dynamic in essence, and continuously transcending its prior forms, indicates that we too are much more interconnected, information-rich, electro-dynamic, and capable of transcending our former selves than Mechanistic science has led us to believe. We do not have to wait for the transcendent God to supervene to effect miracles in the world, we have transcendent powers to effect transformation now. The connection of the Spirit/Light/*Logos* to the world of Matter, is awakening to the knowledge (*gnosis*) that matter is filled with divine energies of light which have the potential to enlighten us and transform us into Enlightened Beings who are capable of doing the miraculous.

CHAPTER SIX

FORM CRITICAL EXEGESIS

Introduction

A form critical analysis will be provided for the following texts with a discussion of the interconnection of Spirit/Light/*Logos* and dark/matter in terms of contemporary science: Genesis 1:1-2.4 - The Spirit interactive with Creation; Genesis 37:1-9 - Divine-human communication through prophetic dreams; 2 Kings 2:1-18 - Enhancement of the human spirit and mobility of the prophet in connection with God's Action upon the World; 2 Kings 3:4-27 - Divine interconnection through prophecy enhanced by music; 1 Corinthians 3:1-9 - the transcendence of soul to spirit through Divine interconnection; James 5:12-20 - Divine-human connection through prayer of the elders promoting health; and John 1:1-18 - the interconnection of the Divine and the world of matter through Christ as *Logos.* Form criticism affords deep structural insight into the many levels of meaning of a text, often providing a key which unlocks a deeper encoded meaning. As each text is exegeted, an analysis will be offered for the interconnection between Spirit and matter in terms of contemporary science. The interconnection cannot be adequately explained with theistic models in a Newtonian-mechanistic worldview except in terms of "supernatural" intervention, with a tendency in commentaries to offer few explanatory descriptions of this connection. A scientific cosmological model which posits an energetic view of nature, which is information rich and capable of transcendence, with a panentheistic model of the Divine allows for more natural and fluid explanations of the Divine/matter connection.

The Spirit, Creation, and Light:
Genesis 1:1-2.4a

What is the interconnection between the Spirit/Light/*Logos* and dark/matter in Genesis 1.1-2.4a? A review of biblical scholars reveals there is virtual silence on this issue (Westerman, von Rad, Coats, Henry, Montague, Moody, Moule, Schweizer, Speiser, Loiy). Westermann allows that this is a scientific text, but states that the Priestly writer "tries to preserve the mystery" of God, reflecting the view of a sharp divide between the Divine and the world.[1] Von Rad likewise sees this as a scientific text, and states that according to this text we cannot seek *direct* relation to God in the realm of nature.[2] Genesis 1:2 describes God's action upon the world as first a wind/*ruach* from God, which for later interpreters would be rendered Spirit of God. Philo regarded relation to God as through the constituents of nature, and specifically through the *Logos*/Reason encountered in nature, though this is not "direct" relation to God, it is indirect, and provides an avenue of approach.[3] Moltmann takes Genesis 1:2 seriously that "the Spirit hovered over the waters." "This explanation was seldom heeded in theological interpretation," he states, "but it was intended to point out that the divine Spirit is the creative power and the presence of God in his creation," reflecting a panentheistic view.[4] Both the *Logo*s as Divine Rational Principle and the Spirit as

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[1] Claus Westermann, *Genesis,* vol. 1 (Neukirchen-Vluyn: Neukirchener Verlag des Erziehungsvereins, 1974), 174.

[2] Gerhard Von Rad, *Genesis: A Commentary,* trans. John H. Marks, rev. ed. (Philadelphia: Westminster Press, 1972), 66.

[3] Philo *On Rewards and Punishments 43.*

[4] Jurgen Moltmann, *God in Creation: An Ecological Doctrine of Creation; The Gifford Lectures 1984-1985* (Southampton: Camelot Press, 1985), 99.

Divine creative power in Nature will be emphasized, and what will be brought out is the element of Light as the first creation forming the connection between Spirit and matter.

Text

1. In the beginning of God's creating the heavens and the earth, 2. now, the **earth was formless** and empty, and darkness was over the face of the deep and the Spirit of God was hovering over the face of the waters. 3. And God said, "Let him/it be light" and there (literally, he/it) was light. 4. And God saw the light was good and God separated the light from the darkness. 5. And God called the light day and the darkness he called night and it was evening and it was morning, the first day. 6. And God said, "Let there be an expanse between the waters and let it be to separate waters from the waters." 7. And God made the expanse and he separated the waters under the expanse from the waters above the expanse." And it was so. 8. And God called the expanse sky. And there was evening and there was morning, the second day. 9. And God said, "Let the water be gathered from under the sky to one place and let the dry ground appear." And so it was. 10. And God called the dry ground, land, and the gathering of the waters he called seas. And God called that good. 11. And then God said, "Let the earth produce vegetation, seed bearing plants and trees that bear fruit with seed according to its kind on the land. And it was so. 12. And the land produced vegetation: plants bearing seed according to its kind and trees bearing fruit with seed according to its kind. And God saw that it was good. 13. And it was evening and it was morning, the third day. 14. And God said, "Let there be lights in the expanse of the sky to separate the day from the night. And let them be as signs and for seasons and for days and years. 15. And let them

be for lights in the expanse of the sky to give light on the earth," and it was so. 16. And God made two of the great lights, the greater light for governing of the day and the lesser light for governing of the night, also the stars. 17. And God set them in the expanse of the sky to give light on the earth, 18 and to govern over the day and over the night and to separate the light from the darkness. And God saw that it was good. 19. And it was evening and it was morning, the fourth day. 20. And God said, "Let the waters teem with life of living creatures and let birds fly above the earth, across the face of the expanse of the sky." 21. And God created the great sea creatures and every living and moving thing with which the waters teem, according to their kinds, and every winged bird according to its kind. And God saw that it was good. 22. And God blessed them saying, "Be fruitful and increase and fill the waters in the seas and let the birds increase on earth." 23. And it was evening and it was morning, the fifth day. 24. And God said, "Let the land produce living creatures of the land, according to its kind, livestock and crawler animals of the earth, each according to its kind." And it was so. 25. And God made the animal of the earth according to its kind and the livestock according to its kind and every crawler of the ground according to its kind. And God saw that it was good. 26. And God said, "Let us make humankind in the image of us, in the likeness of us and let them rule over the fish of the sea and over the bird of the air and over the livestock of the earth, and over every crawler animal of the ground." 27. So God created the man in the image of God, he created him male and female, he created them. 28. And God blessed them and said to them, "Be fruitful and increase and fill the earth and subdue it and rule over the fish of the sea and over the bird of the air and over every living crawling ones of the ground." 29. And God said, "See, I give to you every seed bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. 30. And to every beast of the earth and to every bird of the air and to every crawling one on the ground which has the breath of life in it, I give every green plant for food." And it was so. 31. And God saw all that God made, and behold, it was very good. And it was evening and it was morning, the sixth day. 2.1 Thus, they were done, the heavens and the earth and all the array of them. 2.2 And God finished his work which he did by the seventh day and he rested on the seventh day from all of his work which he did. 2.3 And God blessed the seventh day and he made it holy because on that day he rested from all of his work that God created to do. 2.4 These are the generations of the heavens and the earth in the day when each of them was created by YHWH Elohim.

Structure

I. Introduction	1:1-2
II. Stages of creation	1:3-31
A. Day one	3-5
1. God's call for light	3-4a
a. Command	3a
b. Execution	3b
c. Valuation	4a
2. God's act	4b-5a
a. Act	4b
b. Naming	5a
3. Conclusion	5b
B. Second day	6-8
1. God's call for firmament	6
2. God's act	7-8a
a. Act	7a
b. Execution	7b
c. Naming	8a
3. Conclusion	8b
C. Third day	9-13
1. God's call for dry land	9-10

a. Command	9a
b. Execution	9b
c. Naming	10a
d. Valuation	10b
2. God’s call for vegetation	11-12
a. Command	11
1) Word	11a
2) Execution	11b
b. Act	12
1) Report	12a
2) Valuation	12b
3. Conclusion	13
D. Fourth day	14-19
1. God’s call for lights	14-15
a. Command	14-15a
b. Execution	15b
2. God’s act	16-18
a. Act	16-18a
b. Valuation	18b
3. Conclusion	19
E. Fifth day	20-23
1. God’s call for sea and air creatures	20
2. God’s act	21-22
a. Act	21a
b. Valuation	21b
c. Blessing	22
3. Conclusion	23
F. Sixth day	24-31
1. God’s call for land creatures	24-25
a. Command	24
1) Word	24a
2) Execution	24b
b. Act	25
1) Report	25a
2) Valuation	25b
2. God’s call for human beings	26-31a
a. Command	26
b. Act	27-31a
1) Report	27
2) Blessing	28
3) Designation of food	29-30a
4) Execution	30b
5) Valuation	31a
3. Conclusion	31b
III. Conclusion	2:1-4a
A. Conclusion formula	1

B. Seventh day	2-3
1. Act	2
2. Blessing	3
C. Conclusion formula	4a [5]

This unit establishes the theological introduction to the Bible, the Pentateuch, and the Primeval Sagas. Overall, there is a three part structure: an introduction, stages of creation, and a conclusion.[6] Within the body there are six days enumerated with one specific activity of God described for each day, except on the third and sixth day there are two activities of God cited for each day.[7] In the conclusion, the enumeration continues with the seventh day for which no activity of God is described except for rest.

In the introduction, from the first line there is scholarly debate. The primary issue concerns whether *beresit/baresit* in Genesis is in the construct or absolute state.[8] If in the construct, then it would read: “In the beginning **of** God’s creating..,” or rendered “In the beginning when God created ...” If in the absolute state, it would read, “At’ or ‘In the beginning” God created .... Speiser argues that if 1.1 is in the absolute state, then the first two sentences would form an illogical conclusion: “In the beginning God created the heavens and earth,” then what ensued was chaos (v.2).[9] He also indicates that the vocal points support the constructive state.[10] Coats, on the other hand, makes the case on form critical methodology for the absolute state: "the verb "create" constructed as an active perfect (Qal) and controlled by the adverbial 'in the beginning' stands parallel to the closing phrase in 2:4a with its reference to the heavens and the earth, with its verb 'create' constructed as a passive infinitive construct (Niphal) and controlled by a preposition, 'when they were created.'"[11] Loiy, based on theological concerns states that the constructive state "mutes the absolute transcendence of God."[12] The text itself describes God's Spirit as wind, a natural element immanently interacting with creation: the Spirit of God was hovering/sweeping over the surface of the waters. The logic of the text supports the constructive state.

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[5] The Structure provided here is by George Coats which scarcely can be improved upon. George Coats. *Genesis: With an Introduction to Narrative Literature,* Forms of the Old Testament Literature, v. 1. (Grand Rapids: Eerdmans, 1983), 41-42.

[6] Ibid., 42.

[7] Ibid., 43.

[8] E. A. Speiser, *Genesis: Introduction, Translation, and Notes,* The Anchor Bible, (Garden City, NY: Doubleday, 1964), 11-13; Westermann, *Genesis,* 78; Rad, *Genesis*, 67 ; Coats, *Genesis*, 43.

[9] Speiser, 12.

[10] Ibid.

Verse two displays a three part structure, reflecting the overall three part structure of the text as a whole.

1) Now the earth was formless and empty,
2) darkness was over the surface of the deep,
3) and the Spirit of God was hovering/sweeping over the waters.

A picture of a "damp primeval element" is described for the state prior to God's activity.[13] Already, I have divided time into two blocks, before God's activity and the time of God's activity. The text in v.2, by placing all of this information into one sentence implies more of a unity, while v.1 with its reference to "in the beginning of God's creating" suggests a different reference to time. Philo states in his exegesis on Genesis 1, that there was no time before the beginning, his argument being that we measure time by the interval of the motion of heavenly bodies.[14] There can however be another dimension of time in reference to God.

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[11] Coats, *Genesis*, 43.

[12] Dan Loiy, *The Search for Ultimate Reality: Intertextuality between the Genesis and Johanine Prologues,* Studies in Biblical Literature, v. 93 (New York: Peter Lang, 2005), 24.

[13] Rad, *Genesis,* 49.

God's presence described as *ruach* is actively present here *with* the watery formlessness. *Ruach* as wind is a natural element and emphasizes that God's presence and power is interactive within creation. This presence is described with the verb *merachphet*, as Speiser notes from the Ugaritic cognate describing a form of motion, in particular of an eagle sweeping over its young.[15] Analogically, the model depicted is theistic, distinct yet interactive as wind interacts through Nature. As a mother bird hovers over its young (for *ruach* is feminine) its very presence as caregiver is interaction, or as Montague states is "offering an encouragement for risk."[16] That the beginning state is described as water has its parallels in ancient Mesopotamia, which many scholars point out,[17] as well as the parallel to the Greek cosmology of Thales. In Hesiod's cosmology, out of Chaos comes the anthropomorphic *Erebo*s and Night, and from Night comes forth *Aither* and Day. Night is described as a mother who conceives in love and gives birth to *Aither* and Day.[18] In Genesis, the Spirit of God like a mother bird is interactively present over her creation nurturing life from the watery potential.

The poetic sounding *tohu wabohu* translated here formless and empty, has its linguistic parallel within biblical literature in the Psalms and Deuteronomy (Ps 107:40; Dt

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[14] Philo *On the Creation* 7.26.

[15] Speiser, *Genesis,* 5; Westermann, *Genesis*, 107.

[16] Montague, 67.

[17] Westermann provides a thorough background to the many parallels, including Hesiod's *Theogony*, offered by various scholars, the Babylonian, *Enuma Elish*, and a Diegueno Indian Eskimo myth. Westermann, *Genesis*, 43, 45.

[18] Hesiod *Theogony* 120-26.

32:10). It means desert, waste, nothingness.[19] Yet, the pair of words are linked with water so cannot be understood as nothingness (much less desert) and must be taken more as "something unformed" as no thing existing. For Philo, "the substance was of itself destitute of arrangement, of quality, of animation, of distinctive character, and full of all disorder and confusion."[20] Westermann quotes F. Delitzsch's assessment that "there is something fearful about this pair of words" which brings to mind the "gaping abyss."[21] This abyss is not to imply creation *ex nihilo* because the existence of water is posited. Philo, commenting on Genesis would however state that God also created the darkness and abyss, describing creation as indeed creation *ex nihilo*.[22] This pre-existent water is related to the deep, *tehom*. *Tehom* (f.) means waters of the deep, that which potentially can destroy or bless.[23] The pre-existent material is dark, watery, no-thing-ness, while the reference to its depth conveys a sense of potent mystery out of which potential may arise.

The Active Spirit is the first agent or mechanism which is the catalyst of forms arising. Though *ruach elohim* (taken together) is not expressed as a wind in any other biblical passage in the Hebrew bible, the biblical account of the Exodus in which the *ruach* (alone) divides the waters would be an earlier paradigmatic concept. There are many parallels in Mesopotamia and Egypt of wind gods active in creation.[24]

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[19] Westermann, *Genesis*, 103.

[20] Philo *On the Creation* 5.22.

[21] Westermann, 103. F. Delitzsch is borrowing Philo's terminology which was "the yawning abyss." Philo *On the Creation* 7.26.

[22] Philo *On the Creation* 7.26.

[23] Westermann is here citing biblical parallels and dismissing any mythical parallels, such as the goddess Tiamet. 105.

[24] Westermann, *Genesis,* 106.

Westermann follows a consensus of *ruach Elohim* as a mighty wind of God, which does not seem to fit the multivalent meanings of the words in the text.[25] As wind of God, the movement would then be *sweeping* across the waters, and as further on in the text the activity of God is described as dividing what exists. As Spirit of God like a mother bird, the movement would then be as a concerned hovering over the creation. 'A mighty wind' may coincide with *merachphet* translated as sweeping, but it does not fit with this verb translated as "hovering" over creation. Both senses of *merachphet*, as hovering and sweeping, should be retained and are not mutually exclusive. The intention of the writer, though certainly dependent upon the concept of *ruach* as wind, is describing something deeper than "a mighty wind." The two concepts, sweeping and hovering suggest an energy which brings a transformation, or molding change, upon creation, yet there is a focused attention implied with hovering, as a mother is actively present with her young. The first interaction described between Spirit and matter in the text is this attentive concern for the potential of the creation-to-be. For the three part structure of v.2, von Rad's use of the term "unfolding" is helpful here, in that something unformed exists and is actively nurtured into being, its potential unfolding with the action and attention of the Divine.

In the interaction of the Spirit with creation after the action of sweeping/hovering the next action cited is to Call Light into existence. The words upon the waters create Light. It is words which cause change and transformation (v.3). According to the text, the action described is not God creating light out of nothing, but by speaking transforms the darkness: Let him/it be light. There is ambiguity about the antecedent of the pronoun.

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[25] Ibid.,107-8.

Earth and deep are both feminine, surface is male. The pronoun "it/him" is most likely referring to the surface that is made light. The Spirit of God in connection with the surface of the watery earth, transforms its darkness to light.

The Spirit of God is sweeping/hovering, then speaking over the waters. The transformation of the waters is rendered through the dynamic energy of God and the intellect of God, as well as an emotional energy directed towards creation. Hovering and speaking and bringing into being indicate the attentive nurturing of a mother, with the first creation being Light. This first light of creation comes into contact with the darkness, for later God's action is to divide the light from the darkness. That light and the darkness are in contact is not the case with some Gnostic texts, or several ancient texts listed by Zockler.[26] However, in Gnostic-Hermetic literature light was understood to be in matter itself. In this text, Light and darkness are only after the emergence of Light separated to create Day One. Then out of the surface of the deep which had been touched by light, land is gathered together by God. With God's words, the land itself produces vegetation and the land again produces land animals.[27] From the waters once in contact with Light, land and vegetation arise. This Light as the first creation begins a process for the emergence of forms out of the formlessness. Meanwhile, what has happened to the light once separated? Its separation from the waters at the least constitutes Day One, primordial Time. The sun is not created until the fourth Day. The text implies that this first light of creation is more than mere sunlight, it is a light which acts as a catalyst for creation. The text is saying that light from the Divine is necessary for the emergence of forms in Nature.

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[26] Thomas Zockler, "Light within the Human Person: A Comparison of Matthew 6.22-23 and Gospel of Thomas 24," *Journal of Biblical Literature* 120, no. 3 (2001): 487-99.

[27] On the third and fifth days.

There is a three part structure of call, emergence of element, then organization by God: God calls, light emerges in the darkness, God organizes light and darkness. In the body of the text, v.3-31, creation is described in an extremely orderly fashion. Just as there was no numbering in the previous Time in which chaos was the theme, reflecting no organized thing, now the writer shifts into an organized numbering scheme reflecting the "thingness" emerging in creation. The medium is the message. The six days of creation each follow an organized pattern of presentation (with variation) in which a repeated refrain forms the intermediate conclusions, followed by a numeric tally.

A. God's call as command (God said, "Let it be light")
    B. Execution (and it was light)
        C. Valuation (and God saw that it was good)
    B. God's act (God separated the light from the darkness)
A. God identifies (God called the light Day)
Refrain: And there was evening, and there was morning, day one.

Variations on this pattern occur on days three and six. On day three, the sky and dry land are created. Instead of moving onto the next day, the cycle of creation is repeated for the creation of plants and trees. On day six, land animals are created, but instead of the cyclical pattern above, a second creation occurs, the creation of humans, male and female together. Why the variation? One could argue that our writer ran out of days and simply had to double up, but in such an orderly, logical scheme, this is doubtful. One sees a logical mind behind the presentation, so an explanation of more depth should be sought.

The doubling up occurs first for plants and land. In a comparison of the creation myth of Genesis 2, land was created before plants:

> In the day that the Lord God made the earth and the heavens, 5. when no plant of the field was yet in the earth and no herb of the field had yet sprung up...

In Genesis 2, there is a sharp divide between the creation of the earth and the plant life. In Genesis 1, while allowing that the earth is prior, the earth and plants are created together, suggesting a more intimate connection between the two. The doubling up of creations on day six, on the other hand, concerns land animals and humans, male and female. Again, in a comparison of Genesis 2, the male is created prior to the animals, and before the female. Genesis 1 has the less complex creatures first (animals), then the more complex creatures second, human beings. Also, male and female are put on par, created together and both are made in the image of God. Genesis 1 is a redaction of Genesis 2. The writer of Genesis 1 is making a point, by signaling a variation of the pattern he has set, positing two calls from the Divine to create on one day instead of one call, he draws the readers attention to the anomaly. Earth and plant life are genetically related, the earth produces vegetation (v.11,12). The creation of creatures progresses in complexity with sea creatures in the preceding verse to land animals to humans, male and female as equal and made in the image of God. Plant life proceeds from the earth itself and is intimately connected to the earth; while the writer draws a logical connection from animals to humans, and as Ringe states regarding this text, the Divine is both male and female.[28] The earlier metaphor of the Divine as a mother bird attentively hovering over creation finds its parallel in v. 28 with the female being reflective of the Divine image.

Throughout, the method of creating begins with the presence of the Spirit actively involved with creation. There is a three part method of creation as speaking, a thing emerging, and then division. The concept of speaking into creation is found in the Psalms (Ps. 33:6; 104:30). There are several Egyptian cosmologies which posit the Divine speaking creation into being. From the third millennium BCE Egyptian Hymn to Atum it states, "at the moment of creation, Atum spoke..." From the nineteenth dynasty Hymn to Ptah at Memphis, Ptah creates the Ennead with only teeth and lips; he calls the names of Shu and Tefnut who give birth to the Ennead. Ptah guides the Enneads through heart. All souls are formed in his heart and by his tongue. From the period of Ptolemy IV at Ptah's shrine at Memphis, "everything that is, has come to being through his words." With Ptah, Creation comes from not only the "tongue" and "lips" but also the heart of Ptah.[29] The hovering of the Divine Spirit in Genesis 1, evoking the image of an attentive mother bird, suggests a parallel to the Hymn with the two common elements of heart (implied in Genesis 1) and the word.

The Hebrew word for speaking is *dabar*. This *word* carries the meaning of intelligent thought expressed. Philo envisioned God creating the world based on a model, as an architect builds a city based on a plan[30] exhibiting clearly Platonic influences, God crafts the world based on an Idea in the world of Ideas.[31] While there is no hint in the text that God was using a model, the intelligent organization displayed both in the process of creating and the text itself clearly reflects a Mind behind the ordering of Creation. That the order exhibited in Creation suggested a Mind behind this Order was well attested in Greek philosophy. The method of creation, of speaking, division, and organization, occurs in the text in eight acts of creation within a six day scheme.[32] After speaking, God "separates" to form the things of creation: First God speaks light into being, the light appears, and God separates light from the darkness, creating day and night, then God calls for an expanse, and God makes the expanse, then separates waters from waters to create sky, and a gathering movement to describe the formation of the sea and dry land. Once these three are formed – sky, sea, dry land – they are called upon by God to produce creatures. God does not make or create vegetation, God calls the land to do this, and the land produces vegetation (v.11-12). This vegetation is plants bearing seeds, while the seeds have the power to produce further plants. The seas, sky and land produce living creatures, with the words of God spoken over them, and they each in turn produce living creatures who are capable of recreating. With God's word there is emergence of forms, an "unfolding step by step" throughout creation.[33] Rather than a copy being made based on a plan, there is an unfolding of potential. All of this creating of Nature has been through the interaction of the attentive Spirit, the word as reflective of Reason actively directed towards creation, and Light as first creation to start the process. All along the creation is deemed "good" as forms arise out of the formlessness; the Forms in Nature are Good and directly connected to God's interaction of Spirit, Word, and Light.

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[28] Carol Newsom and Sharon Ringe, eds. "*Genesis,*" in *The Women's Bible Commentary* (Louisville, KY: Westminster/John Knox Press, 1992), 13.

[30] Philo *On the Creation* 4.16.

[31] Ibid.

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[32] Coats. 43.

[33] Rad, *Genesis,* 49.

In the conclusion, beginning with Genesis 2:1 there is a parallel to the opening line. Thus the heavens and the earth were finished. "And all their multitude" *of things* in 2:1b contrasts with the *tohu wobahu*, formless and void, in 1:2. Where the Spirit of God is pictured as active in 1:2b, in the conclusion God "rests." These verses form a chiastic structure with those of the introduction. The text finishes with a blessing and hallowing of the seventh day. Throughout the text blessings have been offered by God, particularly on the days for animals and humans, told to be fruitful and multiply. It is a priestly blessing for procreation; a priestly blessing for marriage. Here, the final blessing and hallowing is for the sabbath, another priestly concern. The unit ends with a *toledoth* formula: these are the generations of the heavens and the earth when they were created, again, expressing a priestly function of keeping genealogical records, and forming the final chiastic element with the introduction.

The Spirit of God is also understood as plural, but One. Not only is it in the name itself, *Elohim* with its plural ending, but also in the conversation overheard between the entities which comprise the One spirit of *Elohim*: "Let us create..." (Gen. 1:26). A similar philosophical understanding of the One comprising the many was also portrayed in Egyptian theology and Greek philosophy. With the deity of Re there is the linguistic and conceptual link with other deities in Egypt's fifth dynasty as witnessed particularly on the Heliopolitan Ennead (2400-2300 BCE).[34] For the Greek Heraclitus, the Divine was "day and night, summer and winter, war and peace"; "the wise One is both willing and unwilling to be called by the name of Zeus."[35] In Greece, there is the movement from Zeus as the head of the pantheon to the One as containing the image of Zeus. The Gen 1.26 statement parallels the ancient near eastern concept of God as plural, but One. From Greek philosophy, the many things arise from the Divine Source, either as emanation or as the divine action (Mind for Anaxagoras, *Logos* for Heraclitus, the demiurge for Plato) on primordial matter. This text reflects theological concepts from ancient near eastern mythological accounts and Greek philosophy.

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[34] Heliopolitan Ennead in Pritchard's *Ancient Near Eastern Texts.*

The long history of what is meant by the human being made in the image of God is summarized by Westermann.[36] A distinction has been made between the natural and supernatural likeness to God since Irenaeus.[37] Philos' view was that the likeness to God consists in spiritual qualities, in terms of the soul and mind.[38] Some modern and rabbinic literature takes the view that the likeness is in the external form, in the uprightness of the human being.[39] Again rabbinic literature and some modern exegetes subscribe to the view that it is the wholeness of the person, both corporeal and spiritual that is the image of God.[40] And there is the view expressed by Barth, Schumann, and Dillmann that the person is God's counterpart and representative of God on earth, expressed in terms that a person as the image of God corresponds to the king as the image of God, this last idea based on earlier near eastern parallels. Another view expressed in the early Church is that the image of God is not a static quality, it is **a call to imitate in action**. This is the view that Westermann takes. Specifically for Westermann, it is the creative aspect of God that is the image for which human beings are made in God's likeness.[41]

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[35] Frag., 32 cited in Kirk and Raven, 204.

[36] Westermann, *Genesis*, 177.

[37] Ibid.,148.

[38] Ibid.,149.

[39] Ibid., 150.

[40] Ibid.

While Westermann states that the Priestly writer tries to *preserve the mystery* of creation,[42] he goes further by stating that P's text, not only demythologizes, but "a scientific direction" can be discerned in the text.[43] There is separation into categories, a discussion of heavenly bodies in terms of their function, plants and animals are presented in terms of species, and finally, the world coming into being through stages.[44] This "scientific" text will be analyzed below in terms of contemporary science, specifically to discern the interconnection between Spirit and matter. The interconnection brought out above was that the Spirit interacts in its attentiveness, the Word reflective of Reason is directed towards creation, while Light is the first creation of a process of increasingly complex and interdependent creations.

Genre

This is a cosmogony, describing beginnings. Its orderly enumeration set in a cosmological scheme is reminiscent of Greek philosophical cosmologies, particularly Pythagorean cosmology which posits mathematical elements as originative. It is a cosmology of space and time, and posits the many coming from the same source. Divine action is upon a pre-existent watery no-thing-ness. It is also a genealogy according to 2:4a. Normally, when the Priestly writer offers a genealogy, the family relations are given. Here the relation is of the natural world, and this genealogy relates how the elements of nature, including human beings are all related and dependent on each other. This was even more specifically brought out in the writer's expression of days three and six. The repeated refrain – it was morning, it was evening, a second day, etc. – is found in the genre of poem and song. This structure then would indicate a genre of hymn[45] and the song itself is singing the orderliness of creation.

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[41] Ibid., 156-57.

[42] Ibid., 174, 177.

[43] Ibid., 177.

[44] Ibid.

Setting

According to Speiser, "this opening statement about the beginning of the world is assigned by nearly all critics to the Priestly source.[46] The setting then would be shortly after the Babylonian captivity, moving into that of the second temple period.[47] The text reflects both older cosmological models based in primordial waters and Greek philosophical scientific models provided by the Pre-socratics. It expresses a wider cultural worldview than that of Genesis 2, one based on historical-sociological factors affecting Israel. The Priestly writer is just that, a writer, and the setting would also be a literary one, as this unit forms the introduction to the Pentateuch. It may be a hymn appropriate to the second temple period.

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[46] E. A. Spieser, *Genesis: Introduction, Translation, and Notes,* The Anchor Bible, v. 1 (Garden City, NY: Doubleday, 1964), 8.

[47] There is a long standing debate reflected in ZAW over the last decades as to whether the Priestly source is earlier than its date ascribed in the standard Documentary Hypothesis. Until a consensus is reached the view taken here is from the standard model. Jacob Milgrom, "The Antiquity of the Priestly Source: A Reply to Joseph Blenkinsopp," *Zeitschrift fur die Alttestamentliche Wissenschaft* 111, no.1 (1999): 10-22; Joseph Blenkinsopp, "An Assessment of the Alleged Pre-Exilic Date of the Priestly Material in the Pentateuch, *Zeitschrift fur die Alttestamentliche Wissenschaft* 108, no. 4 (1996): 495-518.

Intention

The intention is to create a work of art, as *Elohim* creates the cosmos, one which reflects and praises *Elohim* as the God of creation. This God is portrayed as the Intelligent God behind creation, who in orderly fashion brings the creation into being and calls for an appreciation of this One God and an appreciation of the intelligent orderliness of creation. The writer conveys that creation is Good and reflective of the Divine Mind, the *Logos* in creation. As didactic theology, it teaches the doctrine of resting on the sabbath. It also is a redaction of the earlier creation account of Genesis 2, reflecting a more scientific analysis that the power of the earth produces vegetation, and that vegetation has internal power to generate fruits with seeds, and that less complex creatures precede the more complex. It affirms, in contradiction to Genesis 2 that male and female are equal, and equally co-creators with their own creativity reflective of the divine creativity.

An Application of Contemporary Science to Genesis 1

In Genesis 1, God is portrayed as speaking over the primordial waters; speaking creation into being. "And God said, 'Let it be light and it was light.'" In recent experiments, sound wave energy directed at water has been shown to convert naturally into light.[48] This phenomenon is called sonoluminescence.[49] In scientific language, speaking over water produces sound waves which when directed toward the waters would cause the phenomenon of light. Dr. Masaru Emoto's research on speaking and meditating over water shows how words and thoughts can transform water molecules, forming beautiful crystals where previously ill-shaped configurations existed.[50] Speaking over water inputs information as vibrational energy into a System. Information-rich energy exported into a system allows for the natural emergence of higher order forms, according to Complexity Theory. Emoto states that to give your attention to something is a way of giving energy.[51] The Spirit of God was portrayed as a mother bird who gives her attention to creation, nurturing it into existence, and in so doing provides the necessary energy for new forms to emerge and develop.

Gunkel posits two entities, God and the Spirit of God, onto the text, reflecting a later Trinitarian view.[52] If there are two entities, then the Spirit of God as a separate entity has nothing further to do with the text, and we have to ask why does the writer mention the Spirit at all? Two Entities, God and God's Spirit is not supported by the text itself. The text is more logically coherent when God mentioned in v. 4b and following is God as Spirit, spoken of in the first verses. Then the image presented in the text is that the Spirit of God hovers over the waters, then this same Spirit of God speaks over the waters to create Light. From this energy the entire process of Creation is dependent. Philo described this Light as incorporeal, as perceptible only to the intellect.[53] But in the text Light mixes with the darkness, for v. 3 states that God then separated the light from the darkness. **In order for God to separate the light from the darkness, they first logically had to have been co-mingled**. To be faithful to the text, **this Light is described as something which is able to mix with darkness,** for God must separate it to form the first Day and Night, or Time. This brings us back to the debate offered in the introduction between Augustine and the Manicheans. Augustine's view was if the light mixes with dark creation, then the light is, on philosophical consideration, corporeal. For the Manicheans, the light was philosophically considered incorporeal and mixed with the darkness. Both sides reflect philosophical choices. It was suggested by Pannenberg that light as waves rather than particles may provide a middle ground to this debate. Since the Light mixes with darkness first to begin the process of creation, then *how* actual Light interacts with dark watery substance should be explored.

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[48] Stephen Hawking, *A Brief History in Time*, updated and exp. 10th anniv. ed. (New York: Bantam Books, 1998), 210.

[49] Ibid.

[50] Masaru Emoto, *The Hidden Messages in Water,* trans. David Thayne (New York: Atria Books, 2001).

[51] Emoto, 65.

[52] Gunkel states that there are two images, the spirit of God and God, and that these two images are not in harmony. Hermann Gunkel, *Genesis,* trans. Mark Biddle (Macon, GA: Mercer University Press, 1997), 106. Von Rad states that "there is an unfolding" to creation, however, God and "God's word" are separate, shifting the catalyst for creation onto the word. Gerhard Von Rad *Old Testament Theology*, vol. 1 (New York: Harper, 1962), 142.

Perhaps not coincidentally, the beginning of life on earth as explained by biologists posits water and energy as light or heat as the necessary components.[54] Going back fifteen billion years ago to the Big Bang, all matter in the universe was condensed, and then underwent an explosion and began to expand, as described above in Chapter Four. The sparks of energy moving out from the plasma burst form atoms comprised of the light element of photons. Hydrogen and helium spun out first and through gravitational attraction formed a star, with further matter from the energy-burst forming planets. The earth began as an icy rock with a radiant core. This radiation formed clouds above the surface containing carbon dioxide, nitrogen, water vapor, and other elements. As this gaseous vapor cooled, it condensed and fell to the earth as rain, creating an ocean. For life to emerge however, the ocean would require an input of light and heat. Our sun meanwhile was not bright enough, "it was about one quarter of its current intensity and looked pale in the sky."[55] The earth was experiencing constant meteor showers left over from the formation of the solar system. When this stopped and things quieted down only then could there be a buildup of inorganic chemicals. Lightening was the missing element, according to the experiment of Stanley Miller in 1953. Earth's primordial soup and watery atmosphere contained hydrogen, water, ammonia, and methane. Miller put these chemicals in a flask and passed an electrical charge (electrons and photons) in front of it. In a week the mixture began to produce compounds of acids, organic molecules. Light (photons) upon the water caused life to emerge. Recent investigations of heat vents on the mid-level ridges of the ocean valleys have also further been identified as seed beds of organic life. Theoretically, the heated energy from volcanic lava-flow passes through fissures in the ocean floor creating pockets of inflowing heat which in turn causes carbon and nitrogen atoms to bond. The interaction of Light and dark matter brings about chemical reactions which produces life.

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[53] Philo *On the Creation* 7.26.

[54] John Postelwaite and Janet Hobson, *Explore Life* (Pacific Grove, CA: Brooks/Cole -Thompson Learning, 2003), 253.

Science describes light as necessary for creation and life to emerge, as does Genesis 1. For contemporary cosmologists, there is the light in the radiant earth core producing volcanoes, the light of lightening, the light of the sun, the light constitutive of atoms, the light of the Big Bang, and prior to the Big Bang, the light of the quantum field. There is light in creation according to contemporary science, essential for fueling the emergence of creation and then life. The Hermetic tradition, the Manicheans, and the mystics, discussed above in Chapter Three, all regarded light to be within matter itself, while this text of Genesis 1 written approximately 2500 years prior to contemporary science expresses the intuition that light is essential for the generation of forms. These alternative traditions, Genesis 1, and science support this interpretation that light is foundational for creation, within creation, and more than just sunlight, it is the fuel of forms and life.

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[55] Ibid., 255.

In the text of Genesis 1, after God speaks light into existence upon the water, the Spirit of God creates through separating,[56] creating two entities out of one, and forming new entities more complex than previously. From the formlessness, there is light and darkness. From the watery void there is a sky dome separating waters above and waters below. From the waters below, there is land separated and formed and there is Sea. Complexity arises from what previously exists: from the land, vegetation arises, "plants yielding seed." From the sea living creatures emerge; from the air winged creatures emerge, while each is capable of reproducing. From the vegetated land and only after the land produces vegetation, do living creatures emerge. At each juncture, a new creation emerges out of what existed previously, with God's speaking guidance at each juncture. Also, each new creation displays more complexity than what came prior. This is similar to the process described by Complexity Theory: what exists emerges out of a division of what existed previously, forming more complex forms.[57] The two systems, Genesis 1 and Science are not that far apart conceptually. For science, creation is from One Source, the field giving rise to the Big Bang; for the text of Genesis, it is from One Divine Source and the watery abyss, while the Divine Source first creates Light upon the abyss. Light upon the dark waters begins a process leading to life with increasingly complex forms in both cosmologies.

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[56] Westermann, *Genesis,* 119.

Although God rests on the seventh day, there will be an eighth day, suggesting that creation does not end. Perhaps this is another significance of the writer's choice of delineating eight acts of creation, implying that creation continues within the creation itself, the eight acts signifying that on the eighth day and forward creation continues. If so, the implication is that the Spirit of God continues creating, which is Philo's view.[58] The language, for the constructive state of *beresit,* and objects created which are specifically described as seed bearing and reproductive portrayed in this account also indicate continuous creation. Plants are described as seed bearing, able to produce further plants. Trees are expressly portrayed not as static entities, but "fruit bearing trees" with "seeds" (Gen. 1:12). The fruit, a later entity which emerges from trees, contains the power to recreate further trees. The animals and humans are able to reproduce, to create future animals and humans. The humans, made in the image of God, would be creative, able to create forms, such as those of cultural arts and sciences. Creation is described as dynamically energetic. The writer of Genesis 1 goes out of his way to convey that creation is ongoing. While the Spirit of God is portrayed as having the power to create continuously creating creations, the creations themselves are shown in the text to have this same creative power.

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[57] Stuart Kaufman, *At Home in the Universe: The Search for Laws for Self-Organization and Complexity* (New York: Oxford University Press, 1995).

[58] Philo *On the Creation.*

It has long been noted that the order of creation in Genesis 1 is the general order of creation according to Evolutionary Biology.[59] Ian Barbour states that in the aftermath of Darwin's Evolutionary theory being published, there were three general reactions: the conservatives who vehemently denied evolution and clung to (their version of) biblical inerrancy, the liberals who saw God's immanence within the processes of creation, and the Roman Catholic position which hovered between the two.[60] Although Darwin's theory has been modified since it was published, the order of less complex organisms giving rise to higher order complex organisms remains the same. For Darwin, creation evolved based on chance and necessity;[61] for complexity theory biological systems intelligently create themselves in response to the environment.[62] Kauffman states, it is "not we the accidental, but we the expected."[63]

In the Genesis 1 account, there is a threefold movement to each entity created. In the first creation there is: 1) the outward movement of the spirit – "while the Spirit of God swept over the face of the waters, 2) then, there is **focal concentration** – "Then God said, "Let there be light"; and there was light," and, 3) division – "and God separated the light from the darkness" (Gen 1:2-4). The pattern is repeated, with variations, for further creations. This further describes the movement of emergent systems in nature as described by Complexity Theory: Elements move outwards, form around **a new center**, while other elements move on forming around different centers.[64] The energy and intelligent forms in the previous creations combine in new ways creating more than just the sum of the parts, but new emergent orders, things that had not existed before. The text in Genesis differs however, in that species are created "according to their kind" and not necessarily as adapting and changing form, interacting with the environment, which may reflect the priestly concern for boundary setting.

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[59] Ian Barbour, *Religion and Science: Historical and Contemporary Issues* (New York: HarperCollins, 1997), 57-58.

[60] Ibid., 58.

[61] Ibid., 58-9.

[62] This is the theme of Stuart Kauffman's *At Home in the Universe.* (New York: Oxford University Press, 1995).

[63] Kauffman, 9.

The Spirit of God was portrayed earlier as emotionally attentive over potential Creation, intelligently speaking, dividing and ordering Creation into being. The creations in Genesis display increasing complexity emerging out of what had been produced earlier. Each form is more complex in form, more in-formed, there is more intelligent order carried forward, while the Creatures are able to produce further creations. This text then portrays a dynamic creative intelligent energy within creation, all of creation and not just the human beings. Genesis 1 does not describe matter as inert, in the Newtonian sense, but created with a dynamic power of its own. For Philo, not only were humans created in the image of God, but the world even more so reflected that image.[65]

The dynamic power of nature is described by Q.E.D. and Complexity Theory. All biological systems are open systems which exchange energy/information/matter with their environment for sustenance and growth.[66] Energy/information/matter is present within all of Nature and fuels the emergence of new forms. Electromagnetic interaction underlies the relationship between the elements of Nature and forms the foundation of the solid objects in Nature.[67] According to Q.E.D., the electro-magnetic force is carried by photons, light as particles and waves.[68] No thing can exist without quantum electro-dynamic bonding. Light holds the elements of nature together; it is within Nature itself, according to contemporary science and as discussed above, according to the text. In the text, it is the first creation from the Divine Source which starts the generative process moving forward. In the text, after the presence of Light, from the Divine then there is division; for Complexity Theory, after an influx of Energy then there follows a buildup of energy in a system, a division occurs, followed by a centering movement, and a new form emerges. For Genesis 1, the influx of energy is described as light, light from the Divine Source. The connection of the Divine to the world is intellect (words spoken) and light.

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[64] Hawking, 120, 123-24.

[65] Philo *On the Creation* 6.25.

[66] Fagg, 59.

The nurturing nature of the Spirit of God, above described as hovering over creation, can be further identified. The Spirit of God prepares habitations for each species. The sea creatures have the sea prepared for them, the land animals have dry ground with vegetation created for them, humans have dry land and human companions created for them; a nurturing environment is prepared just as a mother eagle prepares a nest for her young. The Spirit of God in creating displays a dynamic energy, intelligent and caring, and these same characteristics are reflected in creation itself. Each creation is portrayed having its own internal power to create. This first suggests a panentheistic model, and secondly the text calls for us to create nurturing environments in reflection of the model of the Spirit of God. The connection of Spirit/Light/*Logos* to dark matter is that Nature is infused with Reason and Light from the beginning and this Informed Light/Energy is carried forward with every creation.

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[67] Ibid., 63.

[68] Ibid., 43.

As life grows in complexity, so do creatures and their mental capacity, according to the text and Neurology. The text describes a build up of intelligent life, from Light in the beginning to plant life, sea creatures, animals, humans. Science describes the build up of intelligent life from light, to atomic bonding, to molecules, to minerals and soil, to plants, sea creatures, land mammals, humans. This increasing trajectory of complex intelligent life arises through a bonding of energy, information, and matter which pushes open stable systems into new emergent forms: the single cell organisms give rise to multi-cell organisms, creatures with serial processing brains gives rise to creatures with parallel processing brains. The human beings bond together and give rise to culture, which is again another new emergent creation.

Through all the build up of forms, communication occurs. In the early electromagnetic stages this communication is as electromagnetic attraction and bonding, with cells it is through the transfer of chemical information, with animals there is the added communication of sounds, and with humans, the additional communication through verbal and written language. Genesis 1 describes God communicating by speaking and humans in turn can speak to God. This interaction is not unique, but the latest of a series of increasing forms of communication, started with God's energy being directed toward and fueling creation. Humans can enhance the connection to God through energy, attention, and spoken words directed towards God. The human creations of temples, liturgy, prayer and song, such as that produced by the writer of Genesis 1, enhance the communication, the connectivity to God. Internally, **an individual focuses**

attention, whether on creation, on God, or the quiet peacefulness, and begins the electromagnetic processes within the brain itself. The microtubules in the dendrites convey photonic pulses of information as the brain focuses. The light in creation and the light in the brain work in tandem to achieve the connection to the Divine.

FURTHER CONSIDERATIONS: Coats asks the provocative question as to whether this unit is claiming to be addressing the absolute beginning of creation.[69] The question concerns v.2, does "God simply establish order in the midst of a chaos already in existence."[70] If so, then the myth is intimating a new beginning, a re-creation stemming from the chaotic no-thing-ness. Looking at the overall structure of the primeval sagas from the perspective of the Priestly writings (Gen. 1:1 – 11:9) Coats identifies a triangular pattern of ABA'.[71] Element A is the creation report, element B forms the climax with the destruction of the Flood tale, and Element A' is recreation after the flood.[72] This thematic arrangement of the primeval tales would coincide and support the view of the creation of Genesis 1 describing a recreation. This idea of Creation as recreation would coincide with the findings from contemporary science that the Big Bang model allows for multiple big bangs, and a cyclical view of the cosmos in terms of beginnings, endings, and beginnings again which had also been expressed in pre-Socratic philosophy.[73] If such is the intimation, then Genesis 1:1-2:4a is an account of the beginning of our current epoch.

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[69] Coats, 41-42.

[70] Coats, 42.

[71] Ibid., 36.

[72] Ibid.

Taking this idea further, if the cosmology is of recreation, though admittedly this is pressing the text, then we must look behind the watery chaos to an absolute beginning. Philo's view that God created even the darkness would be a parallel here.[74] The first creation in the biblical account is light out of darkness (vss. 1-3). The writer of Genesis 1 was not referring to natural sunlight (even though he states light represents day and night darkness); the planetary bodies, including the sun, are not created until the fourth movement in his account (vss.14-16). According to the prevailing view in scientific cosmology, in the beginning there was a plasma burst of energy which expanded outwards.[75] For cosmologists who proscribe to the Big Bang model, the light from the Big Bang precedes the creation of all that is; similarly for the writer of Genesis 1, a cosmic light precedes all that is, but for this model the primordial abyss would not fit the watery description, but would fit better with Philo's description of dark air. From contemporary scientific cosmology, the Universe began as a unified center, of high dense plasma in which there is no differentiation of forces; there is no thing, but there is not emptiness.[76] There exists the energetic field from which all things arise.[77] The

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[73] John Barrow, *The Book of Nothing: Vaccums, Voids, and the Latest Ideas about the Origins of the Universe* (New York: Pantheon, 2000), 292-97.

[74] Philo *On the Creation* 7.26.

[75] Although the Big Bang model is not the only scientific theory of the beginning of the universe it is the prevailing view. Behind the Singularity or multiple singularities is the quantum field which can give rise to singularities. There is the "no singularity model" which relies on imaginary numbers, such as those used in Feynmann's equations, to represent another dimension of time necessary for the equations to work. In other words, if there is no singularity there is another dimension to time. Imaginary numbers to define time are similar to negative numbers on the number line. For these cosmological theories, one may place God behind the singularity, in the quantum field as Pannenberg does or in another dimension of time. Stephen Hawking. *A Brief History of Time,* updated and exp. 10th anniv. ed. (New York: Bantam Books, 1998) 53-54, 120, 122, 127, 139-41.

[76] Barrow, 236.

[77] McTaggart, 20.

movement is outward into the vacuum scaler fields which cool the initial energy burst and differentiation occurs, forces and matter begin to form.[78] In this sense, from no thing existing (a quantum field consisting of only energy) things emerge.

In the biblical account, the Spirit creates through division: light and darkness; waters and dry land; night and day (vss. 4, 9, 17) In scientific cosmology a flow of plasma expands out in all directions, separating, then there is formations of centers of energy (the knots of energy as described by Laszlo above) with innumerous galaxies and solar systems forming through concentration of energies towards the various new centers, or "knots" of matter that Laszlo spoke of. In biological evolutionary creation there is the emergence of ever higher ordered structures through division.[79] The simplest way Nature reproduces is through cell division. Nature continues to proliferate via division and through concentration around new centers.

As described by Complexity Theory, complexity emerges from what existed previously. From the quantum field come stars and solar systems. From the minerals which have formed on planets and the energy of the sun comes soil, vegetation, and human life, all emerging from the foundation laid by what existed previously. Energy fuels all that exists on the planet, nourishing the forward motion causing further emergence.[80] There is an Intelligence behind and through it all which continuously causes higher complex forms to come forward. There is a pattern which repeats through all processes, while the process of emergence is expressed through the mathematics of differential equations, which attests to the elegance of the universal dynamic organization from micro to macrostructure.

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[78] Barrow, 236-37.

[79] Ervin Laszlo, *The Systems View of the World: A Holistic Vision for Our Time*, Advances in Systems Theory, Complexity, and the Human Sciences (Cresskill, NJ: Hampton Press, 1996), 125.

[80] Vaclav Smil, *Energies: An Illustrated Guide to the Biosphere and Civilization* (Cambridge: MIT Press, 1999), 1.

Summary

The Deity of Genesis 1 is described in personal terms: God speaks and acts. There is a combination of the anthropomorphic theological cosmology with the scientific cosmologies discussed in chapter two above. The Spirit of God is portrayed as a life-giving creative energy, intelligent and caring whose process of creating through centering (calling into creation), division, and increasing complexity reflects similar processes described by Complexity Theory. For Science, emergence is a natural process in which higher complex order spontaneously arises; for Theology, it is the Spirit of God active within creation, which brings about increasingly transcendent order. Nature as Light imbued and increasingly exhibiting complexity in Form, has its own generative power to continuously create. Humanity made in the image of God, would be humans as creative, intelligent, caring. It would also mean a striving to transcend our environment by creating richer environments that foster further transcendence, emergent environments which foster creativity, intellectual pursuit, and caring concern for the welfare of others.

In Genesis 1 there is the repeated refrain that the creation is Good. In chapter two, some Gnostics texts were reviewed which expressed the opposite view, that creation is a type of prison. In Greek philosophy, including the Hellenistic Philo, there was the view that the way to connect to the Divine was to meditate on the Forms in nature, created by God. In this way, one became closer to the mind of God. In Genesis 1, the

Spirit of God is the active, intelligent, caring energy operative upon creation which leads to transcendence of forms, the Good of Nature. Carrying over the view of the Greek philosophers, seeing, meditating, and studying the patterns of transcendence in nature allows one to be closer to the Spirit of God, allows for the connection between Nature and the Divine. This is the mental connection, but this mental connection is possible because of the complexification of the forms in matter. God's Spirit as energetic movement over creation and Speaking as directed intelligent energy creates Light, and this Light is in creation. This is the connectivity between the Divine and the world. It is also the connective element within matter as matter grows increasingly through energy/information transfer and electromagnetic bonding. The electrical pulses of light within the brain completes the circuit of connectivity back to God as the mind focuses on God and partakes in creative, nurturing activity. The Nature of the Cosmos is that it is imbued with Reason and Light and light forms the connecting element for all that is.

The Divine - Human Connection through Dreaing: Genesis 37:1-11

The bible provides many examples of Divine-human interaction through dreams: Genesis 15:12-13 – a deep sleep fell on Abram and the Lord spoke to him; Genesis 20:7 – God warns Abimelech in a dream that Sarah is Abraham's wife; Genesis 28:12 – Jacob's dream at Bethel promising divine protection; Genesis 37:5-11 – Joseph's dream; Genesis 41:16f – God reveals to Pharaoh in a dream what is about to occur; Numbers 12:6-9 – the Lord is said to speak to prophets in dreams; 1 Samuel 28:6 – it is stated that the Lord did not answer either by dreams or by Urim or by prophet; Job 4:12-17 and Job 33:12-18 – state that God warns in dreams; Daniel 1:7 – it is said Daniel has understanding about dreams, Matthew 1:20 – an angel appeared in a dream to Joseph to keep Mary; Matt 2:12-22 – Joseph and family are advised to flee to Egypt and later to return to Israel, to go to Galilee, not Judea (there are five in the first two chapters of Matthew). The focus text to investigate the Divine Spirit to Matter interconnection through dreams will be Genesis 37:1-11, Joseph's dream.

A survey of commentaries on Genesis 37 reveals little interest in investigating the connection between the Divine and the world through the medium of dreams.[81] Dream communication is often labeled as "gift" from the Divine without further elaboration. Brueggemann states that "the dream is a gift from God" and is "God's hidden way" and "the narrator sets a dream to guide the whole story" while stating "that it will do us little good to investigate the phenomena of dreams."[82] This last statement seems illogical. Because "the narrator sets a dream to guide the whole story" the text calls for a closer investigation of the phenomenon of dreams which reveal a future reality. Rather than the view of dreams as simply "gift" dreams of a future reality as process will be examined. Regarding God's action upon the world of matter, in the Joseph novella as a whole, Brueggemann states "the purposes of God are not wrought here by abrupt action or by intrusions, but by the ways of the world which seem to be natural and continuous."[83] Yet, he also states that the view of God is so high in the Joseph narrative that "human action is declared irrelevant."[84] The text reveals the opposite view, that human action is most definitely relevant and will be brought out in analysis. Brueggemann's sense of the action, or interconnection of the Divine in "natural" terms will be pursued further through the insights of science, both ancient and contemporary.

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[81] Walter Brueggemann, *Genesis* (Atlanta: John Knox Press, 1982); Claus Westermann. Genesis. (Neukirchen-Vluyn: Neukirchener Verlag des Erziehungsvereins, 1974); Gerhard von Rad, *Genesis: A Commentary* (Philadelphia: Westminster Press, 1972); Coats, *Genesis;* Hermann Gunkel, *Genesis*, trans. Mark Biddle (Macon: GA: Mercer University Press, 1997).

Text

1. Now Jacob lived in the land of the journeys of his father, in the land of Canaan. 2. These are the lines of Jacob: Joseph was seventeen years old and he was tending to the flock with his brothers. And he was a youth and he brought a bad report to his father about the sons of Bilhah and Zilpah. 3. As for Israel, he loved Joseph more than all of the sons of him, for he was the son of his old age and he made for him an ornamented coat. 4. When his brothers saw that their father loved him more than any of his brothers,

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[82] Brueggemann, 301.

[83] Ibid., 289.

[84] Ibid.

they hated him and they just could not speak to him with kindness. 5. One time, Joseph dreamed a dream and he told it to his brothers and they hated him more. 6. He said to them, "Listen to this dream that I dreamed. 7. Behold, we were binding sheaves in the field. And behold, my sheaf rose and stood. And behold, your sheaves gathered around and bowed down to me." 8. And his brothers said to him, "Are you indeed to reign over us? Are you indeed to be our master?" And they hated him all the more because of his dreams and because of his words. 9. Then he had another dream, and he told it to his brothers. And he said, "Behold, I dreamed a dream again. And behold the sun and the moon and eleven stars were bowing down to me." 10. When he told it to his father and brothers, his father rebuked him and said to him, "What is this dream that you dreamed? Will we come, I and your mother and brothers and bow down to the ground before you?" 11. And his brothers were jealous of him, but as for his father well he kept the matter in mind.

Structure

I. Exposition	1-4
A. Statement of location	1
B. Introduction of principal characters	2-4
1. Introductory formula	2aa'
2. Definition of characters	2ab'- 4
a. Joseph	2ab'b
1) Biographical data	2ab'
2) Crisis	2b'
b. Israel	3
1) Relationship with Joseph	3a
2) Crisis	3b
c. Brothers	4
1) Response to the father	4aa'
2) Crisis	4ab'b
II. Double Dream Report	5-11
A. First dream	5-8

1. Introduction	5
2. Dream speech	6-7
3. Response: brothers to Joseph	8a
4. Narration of consequences	8b
B. Second dream	9-11
1. Introduction	9a
2. Dream speech	9b
3. Response: father to Joseph	10
4. Narration of consequences	11

For the purposes of this study, the boundaries of this unit will be Genesis 37:1-11. Verses 1-4 constitute a separate unit of exposition and vv.5-11 form a second unit, the double dream report. 37:12-36 describes the "complication" for the Joseph novella, with vv. 5-11 forming the first part of this complication.[85] The exposition of characters in vv. 1-4 relates integrally to the double dream report of Joseph (vv. 5-11) offering the state of the relationship between Joseph and his brothers and father, the topic of the dream. For these reasons, the unit of vv. 1-11 will be the focus.

The entire Joseph Novella encompasses Genesis 37:1-36; 39:1-47:27 and establishes Jacob and the twelve tribes in Egypt. What precedes the Joseph novella is that Jacob and his twelve sons are established in Canaan. What follows is the Exodus from Egypt. The exposition and double dream report is set within the first major unit 37:1-36 of this novella. What follows this unit of 37:1-11 is further complication in terms of the brothers' actions towards Joseph after he has told them of his dreams (37:12-36). Genesis 39:1-47:27 describes Joseph's rise to power, additional complication, a parallel and complement in terms of Joseph's actions towards his brothers (42:1-38), then follows the denouement in terms of the reconciliation of the family (43:1-45:28), and finally the conclusion, from Canaan to Egypt (46:1-47:27).

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[85] Coats, 266-68.

In the exposition of Genesis 37:1-4, v. 1 introduces subtly a sense of instability in terms of living conditions: "Now Jacob lived in the land of journeys, *meguri*, of his father in the land of Canaan." According to Rabbi Isaac Jerusalami, *gur* is "as sojourner, temporary dweller, dweller in Israel with certain conceded, not inherited rights."[86] Verse two begins with the *toledeth* formula, these are the "lines" of Jacob. Yet, again as in Genesis 1 there is not the usual listing of the descendants one expects following a *toledeth* formula, A begat B, and B begat C. Instead, brief biographical information is offered for Joseph in v. 2b, followed by a statement concerning the relationship between Joseph and his brothers: Joseph tended flocks with his brothers; he brought a bad report about them to his father. This report, Jerusalmi renders "whispering, defamation, bad or evil report."[87] Next, Israel/Jacob is introduced, but in terms of his relationship to Joseph, in comparison to his relationship to Joseph's brothers: he loved Joseph more than his other sons (v.3). This preferential affection is symbolized with a gift, the ornamented tunic. In 2 Samuel 13:18f, the same type of garment is mentioned as that worn by royal princesses. The *passim* in the Hebrew phrase may be an adaptation of the Akkadian *pisannu,* "a technical term denoting appliqué ornaments on costly vests,[88] and not long sleeves, or many colors in traditional renderings. The brothers are then introduced in relation to Joseph, "the brothers *saw* (because of the ornamented tunic) that their father loved him more than any of his other sons and they came to hate him" (v.4). The writer introduces all characters in relation to the other characters. Instead of the typical *toledeth* account of family lines, the writer structures the presentation of the description of characters in relational terms of actions and emotions, revealing the emotionally *intertwined* nature of the "lines" of Jacob.

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[86] Isaac Jerusalmi, *The Story of Joseph (Genesis 37; 39-47): A Philological Commentary.* 2nd ed. (Cincinnati: Hebrew Union College-Jewish Institute of Religion, 1968), 1.

[87] Jerusalmi, 4.

[88] von Rad, *Genesis,* 346; Speiser, *Genesis,* 290.

After a presentation in terms of enmeshed emotional ties, the first dream report begins. As John Sanford states in *Dreams: God's Forgotten Language*, our dreams are not limited to data from our personal life, but by a symbolic thinking relate us to issues in life beyond ourselves."[89] The emotional relationships between individuals feeds into the psychic unconscious. The dream is the language of the unconscious, according to Jung.[90] The inclusion by the writer of the relationships between the characters of Joseph and his brothers and father in the exposition suggests this information is important to what follows, the content of the dream report. The writer adeptly moves from a description of the relationships to the dream reports revealing a logical and intuitive depth of understanding of the nature of dreams.

The structure of vv. 5-11 is comprised of two dream reports, parallel in structure. The first dream report (vv. 5-8) contains four elements: an introduction, a dream speech, a response in the form of two rhetorical questions by the brothers, followed by a narration of consequences in terms of the brothers' feelings. The second dream report (vv. 9-11) consists of an introduction, a dream speech, a response in the form of two rhetorical questions this time by the father, followed by a narration of consequences in terms of the brothers' feelings and this time the narrator adds the father's thoughts. The reporting of emotions thematically ties in with the exposition.

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[89] John Sanford, *Dreams: God's Forgotten Language* (San Francisco: Harper and Row, 1989), 59.

[90] Carl Jung defines the unconscious as the parts of the personality of which we are unaware. Sanford, xiv.

According to Coats, the dreams function by foreshadowing major events in the story.[91] This foreshadowing is implicitly signaled in the last statement of the unit (v. 11b) that Jacob 'kept' this (Joseph's report of the dream) in his mind, and "indicates for the writer that dreams should not be discounted offhand."[92] Joseph's eventual position of power in Pharaoh's court described in 39:1-41:57 illustrates the evident reality of the dreams. Ironically, the relating of the dreams to his brothers functions as a catalyst of action, eventually transporting Joseph to Egypt to the foreseen position of power. While Brueggemann points out that conflict is not viewed here as "scandalously" as in the Jacob narrative, [93] he states that "the view of God is so high" in the Joseph narrative that "human action is declared irrelevant."[94] On the contrary, the action turns on the brothers' jealousy and their believing, at least to some extent, in the truth of the dream. Chrysostrom states regarding the brothers:

> "See the extraordinary degree of their blindness: they themselves interpreted the dream. In fact, it is not possible to claim that it was in ignorance of the future that they bore him ill will; rather, it was learning the future from the dreams that added to their hatred. O excess of stupidity!"[95]

The brothers' belief that there may be substance to the dream ignites their angry response of disposing of Joseph into a pit, leading to his eventual capture by Midianites / Ishmaelites who sell him into slavery in Egypt (37:24-36). According to Brueggemann, "the dream functions in the Joseph narrative as the oracle of 25:23 does for the Jacob narrative.[96] In 50:18 the writer relates that the brothers do indeed bow down to Joseph. The narrator confirms in 41:32 that the doubling of a dream means "that the thing is fixed by God, and God will shortly bring it about." It is the brothers' initial response of jealousy to the dream speech (vv. 5b, 8) to be followed by their actions in the following unit, which functions as the catalyst for the placement of Joseph in Egypt. The Divine purpose is revealed as the story unfolds, to save the family during the famine, stated specifically in Genesis 45:7-8 and 50:20. The overall structure reveals the writer's opinion of "the nature of divine activity through the illusive communication of dreams: As dreams are hidden, so is God's purpose."[97]

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[91] Coats, 270.

[92] Speiser, *Genesis,* 290.

[93] Brueggemann, *Genesis,* 289.

[94] Ibid.

[95] Chrysostom *Homilies on Genesis 61.7.*

Many commentaries describe Joseph as arrogantly or insensitively boasting.[98] On the contrary, I am in agreement with Speiser here that Joseph simply "does not realize how invidious his words might seem."[99] Throughout the Joseph novella the writer portrays the character of Joseph as good and wise. Twice in this unit, Joseph unabashedly tells the truth. The writer *contrasts* Joseph naively revealing the truth to his father and brothers (v.2, 5-11) in direct parallel to the brother's dishonest deception towards their father (v.2, 31-33). For von Rad, "a vision was for the ancients so important and obligatory that a demand to keep it tactfully to oneself would not have occurred to them."[100] Joseph's interaction with Pharaoh's wife also portrays his goodness and naivety. In v.2, Joseph is portrayed as exhibiting responsibility as he conveys to his father a bad report of the brothers. This is set in contrast to the character of the brothers, who are portrayed as jealous and devious throughout Genesis 37. The writer has Pharaoh say that Joseph is discerning and wise, and has the Spirit of God (41:38-9). The character displayed by Joseph throughout the novella contradicts the view by some scholars who say he is here arrogantly boasting by revealing his dream. Form critically, the characterization of opposites is important in that it drives the plot forward, while the contrast indicates that for the writer it is the wise and good Joseph, the one who it is said has the spirit of God, who receives the divine communication through the mode of dreams.

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[96] Brueggemann, 290.

[97] Ibid., 301.

[98] Eric Lowenthal, *The Joseph Narrative in Genesis* (New York: KTAV Publishing House, 1973), 17. The word used is "spoiled." von Rad, 346; Gunkel, 386.

[99] Speiser, 290.

[100] von Rad, *Genesis,* 351.

In ancient commentaries, Chrysostom and Ambrose highlight Joseph's "virtue." Ambrose states "to be sure, Jacob loved the more that son in whom he foresaw the greater marks of virtue."[101] For Ambrose, the tunic "of many colors" (according to Ambrose) given to Joseph by Jacob indicated Jacob's sense of Joseph's "manifold virtues."[102] For Chrysostom, it is precisely because of Joseph's virtues that the father gives him the special tunic, and because of this virtue and not just the tunic that the brothers were envious.[103] The presentation of thesis-antithesis in regard to characterization of opposites drives the plot forward to the next synthesis, the action of the brothers to dispose of Joseph.

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[101] Ambrose *On Joseph* 2.5-6 in *Ancient Christian Commentary Research Team,* ed. Thomas Oden (Downers Grove, IL: Intervarsity Press, 2002), 230.

[102] Ambrose *On Joseph* 2.5-6.

[103] Chrysostom *Homilies on Genesis* 61.2.

The second dream report parallels the first. Again, it is stated that Joseph dreamed a dream. Each time the dream speech opens with a call to attention, *hinne*. The contents of the dreams share a similar circular configuration with Joseph in the center, first with sheaves around, then with celestial bodies. Each time, the response to the telling of this dream is in the form of rhetorical questions filled with emotion. In the rhetorical question from the brothers in the first dream report they ask if Joseph is to rule over them. The word "rule," *mlk,* is used in relation to the patriarchs as political power (17:6; 37:8, 11).[104] In the second dream report his father asks rhetorically if they are to bow down in front of him. The brothers' question, with its use of reign is in terms of overturning status of power, the younger over the older; the father's question with its use of the word to bow, is in terms of overturning honor, child over parent. While the family's response to Joseph's dreams is defiance against Joseph being "above" them, Joseph's position in the dreams is also in the "center" (of the sheaves and logically in the dream of the stars). Joseph is symbolically portrayed as a centering agent. For the ancients, the earth was in the center holding together the circling system of celestial bodies, whereas we would say the sun is in the center and holding together the solar system. Joseph will indeed be above his family members in status in Egypt, but theologically he will be holding together the family as a centering agent, as centering agents are required to hold any living system together according to the science of Complex Systems.[105]

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[104] Brueggemann, 301.

[105] John Holland, *Hidden Order: How Adaptation Builds Complexity* (Reading, MA: Addison-Wesley, 1995).

Many individuals are presented as receiving divine communication through dreams throughout the bible: Abraham, Abimelech, Jacob, Pharaoh, and Mary's fiancé Joseph in the Gospel of Matthew. For Abraham, he is trying to stay true to the divine promise of having a child (Gen. 15). Abimelech discovers in a dream that Sarah is a married woman (Gen. 20:3). Jacob has cheated his brother and must leave his home (Gen. 28:12; 31). Pharaoh through his later actions shows concern to provide for his people (Gen. 41:7). Joseph in the Gospel of Matthew struggles with his engagement to Mary (Matt. 1:18-21). In a comparison of reasons for the five individuals above to receive the dreams, what arises as the most basic common denominator is a struggle with conscience. In Genesis 37, Joseph has just given a bad report to his father about his brothers, a decision of conscience. Conscience is defined as

> "a knowledge or feeling of right and wrong; the faculty, power, or principle of a person which decides on the lawfulness or unlawfulness of his or her actions, with a compulsion to do right; moral judgment that prohibits or opposes the violation of a previously recognized ethical principle."

It then appears that, at least for these examples above, a precipitating factor for the mode of Divine communication through dreams is that the individual is experiencing a struggle with conscience.[106] It is the intimate nature of dream communication as deeper than conscious level that indicates that something within, relative to that deep level, is a factor. In the case of Joseph, he has given a bad report concerning his brothers. At the most basic human level, this would provoke a struggle with conscience. A struggle with wanting to do what is right factors into the stories of each, in contrast to, particularly in the story of Genesis 37, the brothers' lack of conscience in their actions which drive the plot forward.

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[106] For Carl Jung, the unconscious refers to the parts of the personality of which we are unaware. Sanford, xiv.

Another common denominator for the examples listed above concerning Divine-human communication through dreams is the greater Divine purpose. The Divine purpose revealed in the Joseph novella as a whole is to save Jacob's family during the famine. It is stated in Genesis 41:32 that the doubling of a dream means it is set by God and God will bring it about. According to Carl Jung, dreams are about God, at the basis of our dreams there is a religious process.[107] An element of this process for Joseph was revealed in the exposition. Prior to Joseph's dream, the social relations between Joseph, his brothers, and his father revealed a dynamic intertwining of emotional energy. For Sanford, our dreams are products at least to a degree of issues beyond ourselves, they are fed by the environment.[108] Joseph had given a bad report to his father about his brothers, an issue which would naturally stir the conscience. That the writer does not indicate specifically in Genesis 37:1-11 that the dream was from God draws the reader's attention to this very human process, a religious process as Jung would say, of a struggle with conscience.

Taking the novella as a whole, it is stated that the doubling of the dream means that what is presented is set by God (Gen. 41:32). With this statement, the writer implies perhaps that a single dream, in contrast to a double dream, is not necessarily communication by God. In Homer's *Odyssey,* Penelope relates that there are two types of dreams: ones through the ivory gates are not to be trusted, while ones through the polished horn gates are truth.[109] In Plato's *Phaedo,* Socrates experienced a dream foretelling the future the night before his death. Philo acknowledged two species of dreams, one sent by God and the other through the senses and thoughts.[110] For Heraclitus, in dreams we take in the divine *Logos*. The Church Fathers placed great merit in dreams and regarded them as communication from the Divine realm. In *De Anima*, Tertullian wrote that we can derive "knowledge of God from dreams."[111] Augustine took down careful notes of many of his dreams recorded in *Confessions, De Trinitate* 2.18, 4.1, and his letters 9, 227, 159. For Origen, dreams of future events were part of divine perception and an indication of divine providence.[112] Athanasius' view was that in dreams the soul transcends the faculties of the body to hold divine communion with the angels.[113] On the one hand, there is a very long tradition of the ancients expressing the view that some dreams reveal a future reality, on the other hand there is the issue as to whether or not dreams of a future reality stem from God as distinct from Nature, or from God through the divine *Logos* in nature. The form critical elements of double dream report and double rhetorical questions signal that the element of "doubling" is important for understanding the text of Genesis 37. For the writer of the Joseph novella, the distinction between the average dream and dreams of the future from God is a distinction between the single and the double dream. The intertwined nature of the *toledoth* lines, and this representation just preceding the dream report, suggests that for the writer/editor of Genesis 37, communication from God via dreams arises through the constituents in Nature in general, and the social environment in particular.

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[107] Ibid., 96.

[108] Ibid., 59.

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[109] Homer *The Odyssey* 19.559-567.

[110] Philo *On Dreams* 1.1-2.

[111] Tertullian *De Anima* 44.

[112] Origen *Contra Celsum* 1.48.

[113] Athanasius *Against the Heathen* 33.

The thematic content of the dreams themselves also suggests that communication through dreams also arises through the constituents of Nature. Joseph's eventual placement in Egypt was due to his brothers' belief in part that there may be some truth to his dreams. Joseph's leadership role occurs because he has interpreted pharaoh's dreams that there will be an impending drought, while his own dreams of the future predicted his own rise in status. The Joseph novella attests to Joseph as a diviner (44:5) in Egypt who is able to predict a future weather pattern. While Joseph's first dream report is associated with his brothers who he works with in the fields and reflects agricultural symbolism, his second dream report is of the stars and planets, an association to weather patterns as such an association is made more explicit by the Babylonians, Aristotle, and later Hermetic philosophers.

The Mesopotamians excelled at divination, writing extensive encyclopedias which included extispicy, dream interpretation, and the patterns of the movement of the planets, sun, and moon since the third millennium.[114] For the early Sumerians, the universe was explained in terms of 1) divine powers, 2) a cosmic "writing" and designs in space and time, 3) and the production of signs for the benefit of humankind.[115] "Celestial divination was a decoding of the sky written by the gods."[116] Classifying the stars into constellations, the "zodiac" was created in order to better chart the movement of the planets through the sky.[117] "Predictions" were often made in the form of a prostasis and an apodosis: "if x, then y."[118] The relationship of x to y was not necessarily thought to be causal, but was a sign: when x appeared then it would be likely that y would occur. These predictions included the relationship of the movement of celestial bodies and the correlating weather patterns. The Babylonians produced the first almanacs, predicting the time for sunrise, sunsets, eclipses, solstices, equinoxes, high tides, rising river levels, frost, plentiful harvest, and drought. Babylonian record keeping covered centuries of observation through stable priesthoods and guilds of father to son, with kings employing the scribal "scholars" to assist in decisions on matters of state.[119] Brown regards the spread of Babylonian astronomy-astrology to neighboring cultures between 750 BCE and 612 BCE as a paradigm shift for a new "science."[120] In Judea, it was reported by Josephus that the zodiac was inlaid on the floor of the Jewish temple. In the bible, Genesis 1:14 states that the lights in the sky were for signs, in Matthew 2:1-2 Persian astronomer-astrologers are said to have come to Judea to visit the future king based on a sign in the sky, and Luke 21:25 has Jesus saying that signs in the heavens will signal the coming of the Son of Man. The astronomical "science" of the day made its way into Jewish culture.

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[114] David Brown, *Mesopotamian Planetary Astronomy-Astrology* Cuneiform Monographs (Groningen, The Netherlands: Styx, 2000), 107.

[115] Ibid., 240.

[116] Ibid.,, 242.

The idea of correspondence, which originated with the Babylonians, that what occurs in the macrostructure affects the microstructure, was made popular by

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[117] Ibid.,, 153.

[118] Ibid.,, 108.

[119] Ibid., 102. Brown's point is that the astronomer-astrologers were scholars and not magicians.

[120] Ibid.,, 126.

Poseidonios.[121] Aristotle provided a model to explain this phenomena. In Aristotle's model of the universe, he placed the earth at the center with concentric spheres rotating around the center with the planets and stars attached. The Prime Mover, equated with the sphere of the fixed stars in *On the Heavens*, and beyond the fixed stars in *The Metaphysics*, starts the motion which then moves the outer-most sphere, whose motion then causes the next sphere's movement, and so on downward through the spheres until there is movement on earth. This model of interlocking levels provided an early answer to how the movement in the heavens could translate to change on earth. There would be a ripple effect, such as one observes on water or through air, with movement being conveyed downward from the heavens. Aristotle surmised that this is what is behind dream prophesy, with the quiet and stillness of the night allowing for sensations and emanations from matter (that Democritus spoke of) to be felt more keenly.[122] The interconnected environment from the heavens to the earth provided the content for prophetic dreams.

The Hermetic tradition carried forward this tradition of interlocking levels of reality, as well as the predictive sciences which were based on such relations, and was popular up through the Renaissance. Katherine Albinese relates that the idea of "correspondence" found its way into almanacs in colonial America, with almanacs being as common in households as the bible.[123] These farmers almanacs predicted upcoming weather patterns based on the movement of the planets and stars.[124] The almanacs were printed and taught at Harvard University in its early years, until it was seen to be in conflict with the science of the day, Newtonian science; the precise measure of exertion and influence of the heavenly bodies on the earthly environment could not be calculated.[125] Prior to this, the farmers almanacs had been printed in England and brought to America by the English colonists.[126] This science came from Europe, by way of the Italian Renaissance. Prior to this, from Hermetic and Aristotelian philosophy, and finally from Babylonian observations.[127] The idea of an inter-connective reality would be later expressed by contemporary environmental sciences and Complexity Theory.

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[121] Jack Lindsay, *Origins of Astrology* (London: Frederick Muller, 1971).

[122] Aristotle *On Prophesying by Dreams.*

[123] Catherine Albanese, *America: Religions and Religion,* 4th ed. (Belmont, CA: Thomson Wadsworth, 2007), 179, 182.

In summary, in contrast to Philo's position that there is a sharp divide between dreams from God and dreams stimulated from the environment and senses, the writer/editor of the Joseph novella conveys that Divine dream communication is not only intertwined with the social environment, but also implies the Natural environment as well. For the writer/editor of the Joseph novella, the double dream is the difference between true and false dreams. The inclusion of the state of the interconnected relationship between Joseph and his family just preceding the dream report, and the content of the second dream with its theme of stars suggests that for the writer/editor of this text prophetic dreams arise through the environment. The intertwined nature of the *toledoth* account preceding the dream report implies the connection of the social environment to dreams of the future, while the dream of the stars implies the connection to the natural environment as well. The historical-cultural milieu also conveys a strong belief that the movement of celestial bodies provides correlate change on earth. Dream communication as connection from the Divine to human realm through the unconscious, the information in the dream as connected to precipitating environmental factors, and dream communication as foreshadowing of a future event will be investigated further below in dialogue with contemporary science.

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[124] Albanese, 182.

[125] Ibid.

[126] Ibid.

[127] Albanese, 180-82.

Genre

"The Joseph narrative offers a kind of literature which is distinctive in Genesis."[128] It is not a "collection of unordered tribal memories" rather it is "artistically crafted" and of "considerable literary finesse."[129] For Brueggemann, it is a "sophisticated literary response" to a cultural and theological crisis.[130] The writer displays a "cool detachment from things religious" in contrast to the Abraham and Jacob narratives; God is not displayed as directly "intrusive" but rather God's actions are "brought about by the ways of the world which seem to be natural and continuous."[131] The writer has not simply brought together older sources, but offers a new perspective of theological intent.

The Genre is an exposition for the story, and more specifically of characters, and a double dream report of future events. As part of the wider Joseph story, the exposition functions to portray Joseph's character in contrast to that of the brothers, and intertwined emotional relationship. The Genre of double dream report occurs a total of three times throughout the novella. While no where in Genesis 37 does it say that the dream was from God, within the Joseph novella as a whole, as Joseph interprets pharaoh's dream he makes the statement that the doubling of a dream "means that the thing is fixed by God, and God will shortly bring it about" (Gen. 41:32). The double dream report functions to convey the divine message of an impending future. In 37:1-11, the double dream report functions ironically as a message which arouses the brothers' jealousy causing actions which eventually propel Joseph, and later the family to Egypt.

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[128] Brueggemann, 288.

[129] Ibid., 289.

[130] Ibid., 288.

[131] Ibid., 289.

Setting

For von Rad, the Novella as it now stands is a unity and stems from royal wisdom tradition, "the product of reflection about characteristics for a wise administrator of power.[132] The setting reflects a "writing process" and a redaction of traditions, composed in a single narration, which has been "preserved" by the Yahwist, for Coats, the Priestly writer, for Westermann.[133] Speiser points out that there are inconsistencies, duplications and discrepancies, and because of this and for linguistic reasons regards the Joseph novella as a composite story based on J and E traditions, with P adding to it, while he also states that the work as a whole achieves "literary excellence."[134] Linguistically, the word "rule," *mlk,* is used in relation to the patriarchs as political power only by the P tradition (17:6; 37:8, 11).[135] There is the similar concept found in both Genesis 1:14 and Genesis

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[132] Westermann, *Genesis*, 28, 120.

[133] Coats, 260, 264; Westermann, *Genesis*, 22.

[134] Speiser, 292.

[135] Brueggemann, 301.

37:9-11 that indicates that the stars offer signs to the future, which further lends itself to P as the final editor of Genesis 37 and the Joseph novella as a whole. The Babylonian Exile would then form the backdrop to this story of a people being uprooted yet preserved.

Intention

The writer is conveying that in times when God's saving goodness cannot be seen, in fact God is working behind and within the conflict to bring about saving and preserving action. Another intention is to reveal the character of Joseph, the one who would save his people, who acts as a centering agent for holding the family system together. A further intention is to indicate a method of divine communication through the hidden language of dreams, a method which fits well with a situation in which the future is uncertain. The overall intention is to reveal that God is working behind the scenes, even before problems come to light. For Brueggemann, while "the theological claims of the narrator are subdued and mostly implicit" nevertheless, "it urges that in the contingencies of history, the purposes of God are at work in hidden and unnoticed ways...and will come to fruition."[136]

An Application of Contemporary Science to Genesis 37

As John Sanford states in *Dreams, God's Forgotten Language*, in the bible "dreams were regarded as manifestations of divine intention, as one of God's ways of communicating."[137] In Sanford's analysis of biblical dreams he states that "we should look at dreams not only as inspired intuition, but from the objective viewpoint of science."[138] What he offers is Jung's concept of the collective unconscious, a transpersonal level of the unconsciousness.[139] He also offers studies of the effects of waking a person when dreams start. People repeatedly deprived of sleep which produces dreams experience the symptoms of a nervous breakdown.[140] Not only is sleep necessary for mental health, but dreaming is necessary as well for wholeness and well-being. God intimately communicates through this necessary aspect of humanity. While the unit indicates that dreams by God are an aspect of the intimate relationships in the social environment, the dreaming unconscious serves as the avenue to this intimate connection to God. In particular, in Genesis 37, it is the wise and spiritual Joseph who is portrayed as intimately linked to his social environment and God. The connection between the Divine and the world through the medium of dreams is portrayed as a holistic connection between the dreamer, the environment, and God.

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[136] Ibid., 289.

This holistic connection to the environment extends beyond just the social environment to include Nature. Joseph's dreams concern a future drought and famine, as they tie in with Pharaoh's dreams. As Joseph's conscience was struggling with his decision to give a bad report to his father, his mind produced a dream of a future in which he is in a leadership role, as the story unfolds, specifically due to a future drought brought out more clearly in pharaoh's dreams. Anticipation of the future is a fundamental aspect of all beings, from quarks, to animals, to humans, as Richard Feynmann's research in quantum physics and John Holland's research in Complexity Theory indicates. In *Q.E.D. The Strange Theory of Light and Matter*, Feynmann describes that the normal pattern of an electron is to first absorb a photon and then emit one to stay in balance.[141] However, an electron may anticipate a collision with a photon and emit a photon first before the collision.[142] The electron does not have to wait for a collision, it can anticipate a future which has not yet occurred. Complexity Theorist, John Holland finds this anticipation of future to be fundamental to all levels of Nature.[143] While we expect a degree of "anticipation or prediction" in higher mammals, this ability is found in all organisms.[144] All organisms through experience filter out details and create internal models based on their encounters with external stimulus. The more patterns encountered in the external environment, the more complex models can become internalized. Adaptation requires anticipation of the future and this ability to predict or anticipate the future increases with evolutionary complexity. Anyone, and this includes, the "wise," discerning, "spirit" filled Joseph (Gen. 41.38-9) would be able to some degree to predict the future.

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[137] Sanford, 82.

[138] Ibid., 96.

[139] Ibid., xiv.

[140] Ibid., 98.

How could Joseph and Pharaoh arrive at models of an upcoming drought? They don't, at least not consciously. They arrive at the model unconsciously. The Babylonians on the other hand, could arrive at a model at the conscious level. Based on a collection of data from the past and events which coincide with this data, they could extrapolate the data into the future to arrive at a model of an impending drought. The text implies that Joseph's dreams are dependent upon the interrelation between himself and his environment, but the "model" is arrived at through the unconscious. What the text offers in terms of the *toledeth* lines, is an emotional interconnection between Joseph and his social environment, and the content of the second dream suggests that this interconnection is also with the Natural environment. His encounter with this environment would be not only at the conscious, but the unconscious and transpersonal level, that is, the collective unconscious. This input of information and energy from his environment would factor into the processes of the dreaming brain, as dreams are a product of our encounters with the environment. For computer models as well as organisms, present information is acquired, then the data is extrapolated and models formed to arrive at predicted future outcomes. Theoretically, information from Joseph's environment would be received through his senses. The information stored in different regions of the brain would then need to come together to form a coherent image brought forward into consciousness. Bits of information from the past come together to form an image of a future reality which transcends the present.

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[141] Richard Feynmann, *Q.E.D: The Strange Theory of Light and Matter* (Princeton: Princeton University Press, 1985), 96-97.

[142] Feynmann, 96-97.

[143] Holland, 31.

[144] Ibid., 32.

Modern astronomy makes complex models based on centuries of observed sense data and mathematical models of interrelations. The science of astronomy describes the relational nature of the movement of the planets, moon and solar activity and their effects on the earth's environment. While the orbit around the sun and tilt of the earth produce the periodic changes of night and day and seasonal variations, the gravitational force of celestial bodies and solar flare ups cause further cyclical and predictable variations. The gravitational force depends upon the mass and distance of the object pulling on the earth, with the sun's gravitational force being the greatest. Although the moon is the least massive, it is the closest to the earth and so contributes considerable gravitational pull, with its effects fluctuating by twenty-five percent every month due to its elliptical orbit, as to whether it is at perigee or apogee. Jupiter produces the next greatest gravitational effect on the earth after the moon, not because of its proximity, but because of its great mass. Still, its effect is about one percent of that of the moon. The sun's effect varies due to (besides its movement through the galaxy, and the earth's elliptical orbit) solar flare ups which tend to follow an eleven year cycle. While the exact cause of drought is still not known, contemporary research indicates that lack of magnetic sun spot activity within the eleven year cycle indicates a correlate drought on earth.[145] It is the periodic nature of the movement of the moon, planets, and solar storm activity and their recorded correlate activity on earth which speaks to the ancient models of weather prediction being possible. Weather forecasting today is still very much a predictive science.

The entire process of receiving information from the environment and forming models of the future requires energy. Receiving data from the environment would be in the form of electromagnet pulses from the environment, from Joseph seeing his brothers' actions, to viewing, even subconsciously, the position of the planets and the constellations. The dreaming brain also requires energy to process sensory information. According to Neurological findings, as an individual falls asleep, the brain first experiences a dampening flow of neural input,[146] and with the arrival of sleep, brain wave frequency slows to a rate of one to four cycles per second.[147] The dreaming brain produces more energy while in the REM state, with EEG readings reflecting the highest electrical energy activity of any brain state, showing spiked spindles of 15 to 18 cycles per second, higher than even the normal waking state.[148] There is over a forty percent increase in blood flow in the brain while one is sleeping.[149] The dreaming brain, for Joseph or Pharaoh, or anyone else experiences an increase of energy while dreaming.

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[145] D. Hodell, M. Brenner, J. Curtis, T. Guilderson, "Solar Forcing of Drought Frequency in the Maya Lowlands," *Science* 292 (2001): 1367-70; D. Vershuren, K. Laird, and B. Cumming, "Rainfall and Drought in Equatorial East Africa during the Past 1,100 Years," *Nature* 403 (2000): 410-414; D. Black, L. Peterson, J. Overpeck, A. Kaplan, M. Evans, and M. Kashgarian, "Eight Centuries of North Atlantic Ocean Atmosphere Variability," *Science* 288 (1999): 1709-13.

[146] Newburg, 117.

The dreaming brain is extremely active, and if one is struggling with an issue or conscience, this increased energy activates various areas of the brain and consciousness may emerge of a future event. While all brain processes require energy, the dreaming brain experiences an increase in energy. While we do not have an EEG reading for Joseph's (or Pharaoh's) dreaming brain, we do know that a brain undergoing a religious experience first needs to quiet the attention centers in the brain, which would be achieved through sleep, and then the hypothalamus is activated,[150] revealing that in the dreaming state electromagnetic wave frequencies rise up. Electromagnetic energy as photons of light travel through the microtubules of the dendrites lighting up the brain. The connection of the Divine to the world, in this case the dreaming brain of Joseph (and Pharaoh) is achieved through their encounters with the social and natural environments, with this information being processed by means of energy and light received from the environment as electromagnetic emissions and then processed in the sleeping brain. The connection is achieved through the reception of information and light in the world which is more intimately relational than that described by Newtonian science. Whether one is processing information from the collective unconscious or a "divine plan," or the electromagnetic signals from the natural environment, or the social, emotional, and intellectual interactions of the day, an increase of energy is involved throughout the material of the brain for this process, while photonic transmission of information as light from the environment and within the brain itself is essential for the process.

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[147] Hobson, 135.

[148] Ibid.

[149] Austin, 317.

[150] Newberg, 118.

The ability to predict the/a future stems from the patterns observed in nature and occurs in the processing brain, as the human being is embedded in the social and natural environment. Information is processed in the mind, whether the conscious or unconscious mind, and an analysis arises being brought forward into consciousness which transcends the present. The writer/editor of the Joseph novella calls this process God; the writer/editor of Genesis 1:14 tells us to read the signs in the sky created by God. There is Divine caring exhibited to preserve the family, there is transcendent information brought into the present, and this caring and information is brought in through the *Logos*/Reason within Nature itself. This analysis of the divine-to-matter connection through the medium of dreams is offered to advance explanations in terms of merely "gift" or "illusiveness" or in terms of models of divine-human interaction which neglect energy processes. It is an analysis which arises from a definition of matter which is light-filled, information-rich, relational and capable of transcendence.

The Enhancement of the Prophet's Spirit:
2 Kings 2:1-18

2 Kings 2:1-18 concerns the double share of the spirit for Elisha and ascension of Elijah. For the ascension, commentators will point out the mobility of the prophet as tradition criticism.[151] On the nature of what is actually happening, on how the ascension is possible, there is virtual silence (Shoemaker, Schweizer, Moule, Long, Henry, Leithart, Moody, Cogan and Tadmor).[152] Montague states, "the messengers of the Lord are endowed with a spiritual subtlety appropriate to their vocation."[153] Regarding Elisha's receiving of the double share of the spirit, 2:9-11 states that if Elisha sees Elijah taken away, he will have a double share of spirit. Long indicates that the other prophets did not see this event.[154] However, neither Long nor Montague, Shoemaker, Schweizer, Moule, Henry, Leithart, Coogan and Tadmor explicitly make the connection that what one (Elisha) sees and experiences alters the spirit. The text will be investigated from the perspective of Neurological studies.

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[151] George Montague, *The Holy Spirit: Growth of a Biblical Tradition* (New York: Paulist Press, 1970), 25.

[152] W. R. Shoemaker, "The Use of Ruach in the Old Testament and Pneuma in the New Testament" *Journal of Biblical Literature* 23 (1904); Eduard Schweizer, *The Holy Spirit* (Minneapolis: Fortress, 1980); C..F. D. Moule, *The Holy Spirit* (Grand Rapids: Eerdmans, 1978); Peter Leithart,. *1 & 2 Kings* Brazos Theological Commentary on the Bible (Grand Rapids: Brazos Press, 2006); Dale Moody, *Spirit of the Living God: What the Bible Says about the Spirit*, rev. ed. (Nashville: Broadman Press, 1976); Mordechai Cogan and Hayim Tadmor, *II Kings: A New Translation with Introdcution and Commentary.* Anchor Bible, v. 11 (Garden City, NY: Doublday, 1988).

[153] Montague, 25.

[154] Burke Long, *2 Kings,* Forms of the Old Testament Literature, v. 10 (Grand Rapids: Eerdmans, 1991), 24.

Text

1. When YHWH was about to take Elijah up to heaven in a storm, Elijah and Elisha were on their way from Gilgal. 2. Elijah said to Elisha, "Stay here; YHWH has sent me to Bethel." But Elisha said, "As surely as YHWH lives and as you live, I will not leave you." So they went down to Bethel. 3. The sons of the prophets at Bethel came out to Elisha and asked, "Do you know that YHWH is going to take your master from you today?" "Yes, I know," Elisha replied, "but do not speak of it." 4. Then Elijah said to him, "Stay here, Elisha, YHWH has sent me to Jericho." And he replied, "As surely as YHWH lives and as you live, I will not leave you." So they went to Jericho.

5. The sons of the prophets at Jericho went up to Elisha and asked him, "Do you know that YHWH is going to take your master from you today?" "Yes, I know," he replied, "but do not speak of it." 6. Then Elijah said to him, "Stay here; YHWH has sent me to the Jordan." And he replied, "As surely as YHWH lives and as you live, I will not leave you." So, the two to them walked on.

7. Fifty of the sons of prophets went and stood at a distance, facing the place where Elijah and Elisha had stopped at the Jordan. 8. Elijah took his cloak, rolled it up and struck the water with it. The water divided to the right and to the left, and the two of them crossed over on dry ground. 9. When they had crossed, Elijah said to Elisha, "Tell me, what can I do for you before I am taken from you?" "Let me inherit a double portion of your spirit," Elisha replied. 10. "You have asked a difficult thing," Elijah said, "yet, if you see me when I am taken from you, it will be yours – otherwise not."

11. As they were walking along and talking together, suddenly a chariot of fire and horses of fire appeared and separated the two of them, and Elijah went up to heaven

in a storm. 12. Elisha saw this and cried out, “My father! My father! The chariots and horsemen of Israel!” And Elisha saw him no more. Then he took hold of his own clothes and tore them apart. 13. He picked up the cloak that had fallen from Elijah and went back and stood on the bank of the Jordan. 14. Then he took the cloak that had fallen from him and struck the water with it. “Where now is YHWH, God of Elijah?” he asked. When he struck the water, it divided to the right and to the left, and he crossed over. 15. The company of prophets from Jericho who were watching said, “The spirit of Elijah is resting on Elisha.” And they went to meet him and bowed to the ground before him. 16. “Look,” they said, “we your servants have fifty able men. Let them go and look for your master. Perhaps the Spirit of YHWH has picked him up and set him down on some mountain or in some valley.” “No,” Elisha replied, “do not send them.” 17. But they persisted until he was too ashamed to refuse. So he said, “Send them.” And they sent fifty men, who searched for three days but did not find him. 18. When they returned to Elisha, who was staying in Jericho, he said to them, “Didn’t I tell you not to go?”

Structure

I. Toward the JordanRiver: three preparatory dialogues	1-6
A. Anticipatory thematic statement	1
B. Scene 1: Elijah and Elisha on the road	2
1. Dialogue	2a-ba’
a. Elijah’s request	2a
b. Elisha’s response	2ba’
2. Itinerary notice: proceed to Bethel	2bb’
C. Scene 2: Elijah, Elisha at Bethel with sons of prophets	3-4
1. First dialogue	3
a. The prophets’ question to Elisha	3a-ba’
b. Elisha’s reply	3bb’
2. Second dialogue	4a-ba’

a. Elijah's request	4a
b. Elisha's response	4ba'
3. Itinerary notice: Elijah and Elijah arrive at Jericho	4bb'
D. Scene 3: Elijah and Elijah at Jericho with prophets	5-6
1. First dialogue	5
a. Prophets' question to Elisha	5a
b. Elisha's reply	5b
2. Second dialogue	6a-ba'
a. Elijah's request of Elisha	6a
b. Elisha's reply	6ba'
3. Itinerary notice: move toward Jordan River	6bb'
II. At the Jordan River: Elijah's ascension	7-15
A. At the Jordan River: the crossing	7-8
1. Description of observers	7
2. Elijah's display of spiritual power over waters	8a
3. Crossing the River	8b
B. Transjordan: vision of ascension	9-12
1. Preparatory dialogue	9-10
a. Elijah's request of Elisha	9a
b. Elisha's reply	9b
c. Elijah's response	10
2. The vision	11-12
a. Narrative setting	11aa'
b. Observatory event sequence	11ab'-12a
1) Opening	11ab'
2) Body of vision	11b-12a
a) Chariots, horses of fire	11ba'
b) Elijah's ascension in whirlwind	11bb'
c) Elisha's outcry	12a
c. Narrative conclusion	12ba'
d. Elisha's reactions	12bb'
C. By the Jordan River: the re-crossing	13-15
1. Elisha's parting of the waters	13-14ba'
2. Crossing over to the company of prophets	14bb'
3. confirmation statement of Elisha's new status	15
III. From Jordan to Jericho: Elisha's knowledge confirmed	16-18
A. Preparations to search for Elijah	16-17a
1. Prophets' request to search for body	16a-ba'
2. Elisha's reply of refusal	16bb'
3. Prophets' renewed request	17aa'
4. Elisha's reply of assent to search	17ab'
B. Description of search	17b
C. The results	18
1. Report to Elisha: Elijah not found	18a
2. Elisha's response	18b

The boundaries of this unit are 2 Kings 2:1-18. It concerns the ascension of Elijah and the passing of the spiritual mantel of leadership to Elisha. What precedes is a regnal account of succession (2 Kings 1:17b-18). What follows in 2:19-22 is an account of Elisha healing the tainted waters. Long reports that there is debate as to whether vv. 16-18 are original to the unit or not. In these verses, the prophets ask to search for Elijah, after doing so they could not find him. Long cites several voices against their originality and several voices for originality.[155] He decides in favor of the verses being original to the text, and he does so because of what is stated in verses 6 and 7, that the company of prophets had stood off at a distance from Elijah and Elisha and so did not witness the ascension.[156] That the prophets were at a distance, and so could not witness the scene at the Jordan is supported by the chiastic structure:

A Sons of prophets afar off (v.7)
  B River divided, Elijah and Elisha cross over (v.8)
    C Ascension in Transjordan (vv.9-12)
  B' River divided, Elisha crosses back (vv. 12-14)
A' Sons of prophets at some distance (v. 15).

That the company of prophets "see nothing of that intimate visionary moment beyond the Jordan"[157] will be of particular importance in further analysis.

Overall, there is a three part structure, comprised of *traveling towards* the Jordan River, a scene at the Jordan River, and *travel away* from the Jordan River to

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[155] Against originality: Gunkel, Galling, Haag, A. Schmitt, Spronk, Wurthwein. For unity: Sanda, Gray, del Olmo Lete, Carlson, Lundbom, Rofe. Reported in Long, 24.

[156] Long, 24.

[157] Ibid.

Jericho. In the first section, the plot of the narrative moves forward geographically and through dialogue which builds tension. In the mid section, Elijah and Elisha cross the Jordan River and the climax occurs with the ascension of Elijah at the banks of the Transjordan. Elisha, now alone, crosses back over the Jordan. In the third section, he travels back to the company of prophets whose anxious questions are met by Elisha's stilted answers. The structural features of narration beg the question, is all this movement through space and time somehow important for understanding the text, for understanding the difficult concept of the ascension of Elijah?

The narrator begins (v.1) with a shocking statement which foreshadows the extraordinary phenomenon of the ascension of Elijah: "Now when YHWH was about to take Elijah up to heaven." In the final scene after the ascension, Elisha returns, not "aloof and cold" as Long states, but more likely in shock after having witnessed the ascension and departure of his mentor. His stilted answers betray this shock. The writer develops further the chiastic structure noted above, with shock, first as a reader response to v.1, and second, based on the writer's description of Elisha exhibiting shock in vss 15-18.

Immediately in v.1b, the narrator begins to development his theme of movement: Elijah and Elisha were on their way from Gilgal. In v.2 the movement stops, but the tension rises through dialogue and the dialogue contains further plans for movement, this time to Bethel. While the two are standing still, the tension rises as Elijah pleads for Elisha not to follow, but Elisha's concerned loyalty presses him forward. The narrator continues with a statement of itinerary: "So they went down to Bethel." In v. 3 tension builds through further dialogue, as the company of prophets at Bethel express to Elisha their foreknowledge of the ascension of Elijah through a question of anxious concern. Elisha cautions silence. The scene repeats itself in vv. 4-5, only now Elijah expresses to Elisha that YHWH is sending him further on to Jericho. And again the scene repeats in v. 6, with Elijah saying that YHWH has sent him to the Jordan. This time however, the company of prophets are said to remain at a distance, while the two cross the Jordan.

In the ascension itself, the narrator again emphasizes movement:

> "as they were walking and talking together, suddenly a chariot of fire and horses of fire appeared and separated the two of them, and Elijah went up to heaven in a storm."

The twice mentioning of fire here expresses that this is not an actual chariot and real horses. For Long, this is a vision.[158] Fire is often associated with Divine presence (Exod. 3:2; 13:21; 19:18) and as Cogan and Tadmor assert, the Divine essence itself (Deut. 4:24).[159] Elijah is taken up by this fiery lighted phenomenon. The "chariot" is often described as conveyor of God's presence (2 Sam. 22:11; Deut. 33:26; Ps. 68:5,34; 18:11; Hab. 3:8). This time the chariot conveys a mortal. Elijah is no more in this space and time, as both Elisha's outburst and the prophets' failed search efforts attest. As to where he is, the narrator has already answered that for the reader in 1:1a and here in v.11, it is heaven. Although in a previous account (1 Kings 18:7-12) Elijah had experienced spontaneous transportation, this is not what is happening here, though certainly related and will be discussed below.

A precursor to the ascension of Elijah is the description offered in Genesis 5:24 where it is said of Enoch that "he walked with God and was no more, because God took him." The surrounding cultures provided their own ascension stories. In Greek literature, Heraclides of Pontus a student of Plato's from the fourth century BCE, states that Varro reported of the ascension of Heracles. Celsus reports a long list of individuals said to have ascended/resurrected beginning with the physical resurrection of the Thracian Almoxis. Because of Elijah's unusual departure, tradition spoke of his return associated with the Day of the Lord (Mal 4:5). He is associated with the messiah in Jewish tradition. The hymn of the Havdalah ceremony that concludes the Sabbath Day asks for his return. He and Moses appear at the transfiguration of Jesus (Matt. 17:10-13), while the ascension of Jesus is associated with Elijah. The Talmud carries a long colorful history of his deeds as ascended. In one writing he was said to be received by the heavenly inhabitants where his task is to records humanity's deeds.[160] At any rate, he is beyond our dimension of space and time according to the text.

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[158] Ibid., 27.

[159] Cogan and Tadmor, 32.

Just prior to the ascension, as the two prophets are alone across the river, there is a final dialogue (vv. 9-10). Elijah asks Elisha what he can do for him (v.9). Elisha's response is "if only a double share of your spirit would belong to me." Elijah's response is that this is a difficult thing, but if he *sees* Elijah being taken, then he will have it (v. 10). First, the "double share" terminology "echoes the legal terminology of Deut. 21:17, according to which the first born was to receive a 'double share'of patrimony.[161] Second, as Cogan and Tadmor assert, this is YHWH's Spirit, the source of Elijah's spirit, and not some personal quality.[162] Behind this phenomena, is Moses' transfer of spirit to the elders (Num. 11:16-17, 24-26). Third, unlike the account in Numbers which does not get into specifics of mechanism, the transfer here does, and is expressed as dependent upon what Elisha sees (v.10).

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[160] S-id. 70; Ber R. xxxiv.8

[161] Cogan and Tadmor, 32.

[162] Ibid., 32. Contra Weisman, *Zeitshrift fur die Alttestementliche Wissenschaft* 93 (1983): 225-34.

After witnessing the ascension and expressing his grief (an outburst and the tearing of his clothes), Elisha returns across the Jordan, and immediately his spiritual abilities are displayed. He divides the waters as did Elijah on the first crossing. Throughout 2 Kings, Elisha will perform many displays of spiritual power, including healing the sick, raising the dead, and multiplications of loaves (2 Kings 2:19-22, 23-25; 4:1-7, 8-17, 18-37, 38-41, 42-44; 6:1-7; 8:16.). It has been noted that he performs twice as many deeds of power as Elijah. What is generally offered for analysis in terms of Elisha receiving a double share of the prophet is its reference to inheritance laws of Deuteronomy, and reference to his supernatural powers.[163] What will be examined below in terms of contemporary science is how Elisha's experience of witnessing the phenomena of the ascension, in contrast to the company of the prophets from Jericho who stood at a distance (v.15), may affect his new status of having an enhanced spirit.

Genre

Long identifies this unit as "legend, a story concerned primarily with the wondrous, miraculous, and exemplary."[164] The genre and conventions of Itinerary are present within the text, along with rhetorical questions, which move the plot forward and as stated earlier, bring out the important theme of movement through space and time.

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[163] Wilson, 193.

[164] Long, 29.

Characteristic elements of vision reports also play a large role. This unit however goes beyond vision, in that Elijah was no more. As legend, Long states that "by their very nature they are "creations of the popular imagination." This statement reflects a Mechanistic worldview. A worldview informed by contemporary science would allow this narrative of the two prophets to be "an account of the wondrous and exemplary from the lives of the prophets."

Setting

The historical time period for Elijah and Elisha is the Omride dynasty, during the reign of Ahab and his successors in northern Israel (869-786 BCE). Soon, in Elisha's time, the Jehide dynasty will overtake the Omride dynasty. The stories of Elisha throughout the Elisha cycle are not arranged in chronological order and appear to be a collection of narratives placed into the Deuteronomistic History.[165] While according to internal evidence Elisha's career extends to the reign of king Joash, Cogan and Tadmor state that no specific date can be assigned to the placement of the Elijah-Elisha cycle into the Deuteronomistic History due to lack of clear historical context.[166]

Intention

It is a conclusion to the tales of Elijah, and an introduction to his successor, Elisha.[167] The narrative is concerned with "the transfer of Elijah's prophetic powers and role to his successor Elisha."[168] This transition parallels the political transition which will soon occur from the Omride Dynasty to the Jehide dynasty.[169] Elisha will become the new leader of the company of prophets.

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[165] Wilson, 193.

[166] Cogan and Tadmor, introduction, note 21.

[167] Ibid., 33.

Another intention is to describe and pass on an account of the miraculous ending, the ascension, of a primary prophet. Leithart equates Elijah's rise in fire imagery to fire associated with the sacrifice, he became a sacrifice rising to heaven.[170] The prophet's prior mobility suggests that his transformation over time created a new person who can rise to heaven, or at least rise up and with the aid of the chariot of fire be taken to heaven; to ascend rather than descend to *Sheol.* As a relationship of parallel traditions has been pointed out between Moses and Elijah, there is also a parallel relationship between Moses and Joshua to that of Elijah and Elisha.[171] There are similarities between Joshua and Elisha. As successors, Joshua parts the Jordan river as Moses parted the Red Sea, and Elisha parts the river as Elijah did. Sweeney points out that Moses' death and burial had no witnesses.[172] The story of Elijah's ascension then would be similar to, but an advance of the account of the death of Moses.

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[168] Marvin Sweeney, *I & II Kings: A Commentary* (Louisville: Westminster John Knox Press, 2007), 271.

[169] Ibid.

[170] Leithart, 176.

[171] Sweeney, *I & II Kings*, 272.

[172] Ibid.

For the enhancement of Elisha's spirit, the text specifically states that what Elisha observes will affect his spirit, in this case double it (vv. 9-10) Regarding Elisha's receiving of the double share of the spirit, Long indicates that the other prophets did not see this event,[173] but neither he nor Montague, nor the other scholars cited above explicitly make the connection that what Elisha sees and experiences alters him internally, even though the text states that this is the case (vv. 9-10). As Long notes, the text indicates that the other prophets were far off and therefore did not observe the ascension (v.15). The text makes it very clear that Elisha actually saw with his eyes (v.12a) not merely the mind's eye, an actual event, which the other prophets did not see. This is why he sees no reason for the prophets to go and look for Elijah (v.16), because he saw him taken away by the chariots of fire. Because the text brings out the concept that what one sees changes the spirit, it would make sense to investigate how seeing changes a person. Besides seeing Elijah taken away, Elisha also saw a chariot of fire and horses of fire taking him away (vv.12-13). In chapter two, divine connection through images of light and fire were historically expressed by the mystics and their interpreters as causing an internal transformation leading to heightened spirituality. For this event, there is the transmission of not only the light/photons from the event *of Elijah disappearing*, but also the transmission of the vision of divine light of the chariot. We do not know the constituency of the chariot of fire and horses, and it certainly is not actual fire, but from the description, it is at least luminous, while the witnessing of Elijah being taken up would be an actual physical event capable of providing sense data to an observer.

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[173] Long, 24.

In *Inside the Brain*, Ronald Kotulak emphasizes how the environment, what we see and experience, the education we pursue, literally changes the neural network in the brain.[174] The microstructure of the brain is changed by outside stimulation.[175] Any stimulus can cause physical changes in the brain's neural network: sounds, sights, smells, touch.[176] Electromagnetic pulses emanate from the scene of Elijah's ascension to Elisha's body. These pulses enter the eyes and flood the brain with photonic energy. The pupils receive this transmission of photonic information which send it to the retina through optic nerves.[177] The lateral geniculate nucleus receives the information and acts as a transmission station sending electrochemical impulses via a ribbon of nerve fibers to the visual cortex.[178] The cells of the visual cortex receive and store the information. This electrochemical information is stored as patterns of connection in specialized brain cells.[179] When these cells are triggered there is a reassembling of previous patterns of connection.[180] New dendrites are grown allowing for more synaptic connections. The more connections, the smarter, wiser, more conscious we become.[181]

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[174] Ronald Kotulak, *Inside the Brain: Revolutionary Discoveries of How the Mind Works* (Kansas City, MO: Andrew McMeel, 1997), 6-7.

[175] Ibid., 8.

[176] Ibid.

[177] Ibid., 20.

[178] Ibid.

[179] Ibid.

[180] Ibid., 19.

[181] Ibid.

Elisha is physically and electrochemically altered by this experience of seeing Elijah taken away by the luminous image. How much alteration depends upon the original stimulus and the internal neuronal scaffolding to build upon. Elisha has received a neural flood of information, both from witnessing Elijah's disappearance and the appearance of the divine chariot of fire. According to the language of the science of Neurology, Elisha has undergone an actual alteration of the microstructure of the brain; according to the language of the text, his spirit has been enhanced, and according to the text, his receiving of the double share of the spirit is dependent upon what he sees. Historically, the causal connection was made by Plato and Philo. Plato taught that what is inspired, inspires. Philo said that reading the scriptures and meditating brings one closer to the Divine. Both taught that contemplating the Forms in Nature created a more spiritual person. While we cannot prove that one causes the other, that changes in the brain change "the spirit," we do know from Neurological studies that what one observes changes the brain, which in turn changes the mind (chapter three above). And spirit has traditionally been associated with mind. Elisha's interconnection with the realm of Spirit is through a luminous image, and this experience increases his spirit.

For the ascension, commentators will point out the mobility of the prophet, as in 1 Kings 18:12, Acts 8:39, or even the Ezekiel texts which appear to be of a different nature (the ascent of Ezekiel seems to be of the spirit and not the body).[182] On the nature of what is actually happening with the ascension or the mobility of the prophet, there is virtual silence in the commentaries.[183] That Elijah in the past had spontaneously lifted up bodily and traveled a distance, may be a type of precursor to his ascension. The theme of movement through space and time identified in the form critical analysis indicates that Elijah's past mobility, spontaneously lifting up and moving through space and time is a key to understanding. Regarding the mobility of the prophet, Montague states, "the messengers of the Lord are endowed with a spiritual subtlety appropriate to their vocation."[184] This is the extent of what is offered in commentaries and studies on Pneumatology.

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[182] Ibid., 25.

[183] Cogan and Tadmor; Shoemaker; Schweizer; Moule; Moody; Henry; Long.

In the references to the mobility of the prophet in biblical texts, each time the text indicates that indeed it is God's power (the Spirit of the Lord), and here too it is God's power in terms of the whirlwind and chariot which take Elijah to heaven (1 Kings 18:12; Ezekiel; Acts 8:39). Although this is a difficult phenomenon for us to understand in terms of a Mechanistic worldview, except to posit the supernatural, perhaps contemporary science may offer a chance to at least scratch the surface in terms of understanding. First there are historical antecedents besides the biblical texts for mobility of a prophet and ancient cultural parallels for ascension mentioned above. The Medieval Catholic saints Joseph of Cupertino and Theresa of Avila were reported by several reliable witnesses to have been bodily lifted up and set down in surrounding locations.[185] Both devoted great time to prayer and study of scriptures. In the Taoist writing *Riding on the Wind, Floating with the Clouds* in *Liezi,* the text specifically discusses this phenomenon of mobility in relation to and dependent upon the necessity of devoting years of time to study of matters pertaining to the spiritual and practicing meditation.[186] This last reference indicates that study and prayer or meditation is a prerequisite and some how has an effect on this phenomenon, at least for the mobility of the prophet, and at least according to Taoist tradition. According to Neurological research, education and any practice, such as meditation, physically alters the neural scaffolding in the brain.[187] We cannot say that education and meditation causes mobility, but what can be said is that education and meditation cause changes in the physical brain, increasing neural pathways, and increasing energy transference through these pathways.[188] And at least for Taoist tradition, it is considered causal. The anecdotal evidence for the Catholic saints increases the probability that such phenomena is possible, and Neurological research indicates actual changes in the brain are brought about by what one sees, studies, and practices. The miraculous need not be dismissed as legendary because it does not fit into a Mechanistic framework. The Mechanistic framework was promoted by the Church precisely because it rendered natural miracles impossible.[189]

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[184] Montague, 25.

[185] Herbert Thurston and Joseph Crehan, *The Physical Phenomena of Mysticism* (London: Burns Oats, 1952).

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[186] Liezi. *Liezi: A Taoist Guide to Practical Living.* Introduction by Eva Wong. Shambhala Dragon Editions (Boston: Shambhala, 1995), 54-55.

[187] Kotulak, 19.

[188] Ibid.

[189] Griffin, *Religion and Scientific Naturalism*, 115.

Divine Interconnection through Prophecy Enhanced by Music:

2 Kings 3:4-27

Biblical texts which incorporate music in association with prophecy include 1 Samuel 10:5 and 2 Kings 3:4-27. The focus text will be 2 Kings 3:4-27. In v. 15 Elisha abruptly asks for a musician and then the Dtrh takes the reader aside to state that "when a musician played, the hand of YHWH used to come upon him" (v. 15b). Long describes this phenomenon as having "its origin in the mysterious rush of supernatural power."[190] Cogan and Tadmor, describe the event as "the recurring ecstasis which took hold of the prophet under the influence of music."[191] They cite the connection between music, band of prophets, and Saul being "similarly possessed" in 1 Samuel 10:5, and then point the reader in the direction of Wilson's *Prophecy and Society.*[192] Wilson states the distinction between trance and possession, with possession being defined as a cultural theory, rather than as a psycho-physiological state for trance. For Wilson, possession is a cultural theory that explains how contact takes place between the supernatural and natural worlds.[193] He states, possession means that the body has been entered by a spirit or deity.[194] When the individual speaks, it is the spirit speaking through the individual's body.[195] The individual's identity may be temporarily lost as the spirit replaces the individual's soul.[196] Cogan and Tadmor have identified the prophetic event for Elisha as "possession" as Wilson describes it, though this cultural theory of deity entering a body does not seem to be the case here in 2 Kings 3. The expression the writer of 2 Kings 3 uses is more subtle and poetic: "the hand of God" came upon Elisha. There is no possession or entering described. While Wilson himself does not comment on this text specifically, his definition of trance as a psycho-physiological state, rather than possession as a cultural theory may be more appropriate. He lists ten items characteristic of trance[197] which will be discussed below, in dialogue with James Austin's discussion of meditative states. How music affects the brain will also be discussed, in an effort to add to this discussion of the interconnection of the Spirit and matter in non-supernatural, interventionist terms.

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[190] Burke Long, *2 Kings* Forms of the Old Testament Literature, v. 10 (Grand Rapids: Eerdmans, 1991), 42.

[191] Mordechai Cogan and Hayim Tadmor, *II Kings: A New Translation with Introduction and Commentary.* Anchor Bible, v.11 (Garden City, NY: Doubleday, 1988), 44.

[192] Cogan and Tadmor, 44.

[193] Robert Wilson, *Prophecy and Society in Ancient Israel* (Philadelphia: Fortress Press, 1984), 34.

[194] Ibid.

[195] Ibid., 35.

Text

2 Kings 3:4. Now Mesha king of Moab raised sheep, and he had to supply the king of Israel with a hundred thousand lambs and with the wool of a hundred thousand rams. 5. But after Ahab died, the king of Moab rebelled against the king of Israel. 6. So at that time King Johoram set out from Samaria and mobilized all Israel. 7. He also sent this message to Jehoshaphat king of Judah: "The king of Moab has rebelled against me. Will you go with me to fight against Moab?" "I will go with you," he replied. "I am as you are, my people as your people, my horses as your horses." 8. "By what route shall we attack?" he asked. "Through the Desert of Edom." he answered.

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[196] Ibid.

[197] Ibid., 34.

9. So the king of Israel set out with the king of Judah and the king of Edom. After a round-about march of seven days the army had no more water for themselves or for the animals with them. 10. "What!" exclaimed the king of Israel. "Has YHWH called us three kings together only to hand us over to Moab?" 11. But Jehoshaphat asked, "Is there not here a prophet of YHWH that we may inquire of YHWH through him?" And one of the officers of the king of Israel answered and said "Elisha son of Shaphat is here who poured water on the hands of Elijah." 12. Jehoshaphat said, "the word of YHWH is with him." So the king of Israel, and Jehoshaphat, and the king of Edom went down to him.

13. And Elisha said to the king of Israel, "What have I to do with you? Go to the prophets of your father and the prophets of your mother." And the king of Israel answered him, "No, for YHWH called these three kings to give into the hand of Moab." 14. And Elisha said, "By the life of YHWH of hosts who I serve, if I did not have respect for the presence of Jehoshaphat king of Judah, I would not look at you or even notice you. 15. But now, bring to me a musician!" For whenever a musician played the hand of God (f.), used to come upon him. And he said, "'This is what YHWH says, 'Indeed, make this wadi, pools, pools'." 17. For this is what YHWH says, "you will not see wind and you will not see rain, yet the valley will be filled with waters and you will drink, you and your cattle and your animals. 18. And this is easy in the eyes of YHWH and he will give Moab into your hand. 19. And you will overthrow every city of fortification and every major town and every good tree you will cut down and all of the springs of water you will stop up and every good field you will ruin with stones.'"

20. In the morning, at the time for offering the sacrifice, then See! Waters flowing from Edom! 21. Now all of Moab heard that the kings came to fight against them. And they called every one bearing arms upward and they stationed themselves on the boarder. 22. When they got up in the morning the sun shined on the waters and the Moabites saw across the way that the waters looked red like blood. 23. They said, "That's blood! Those kings must have fought and slaughtered each other. And now to the plunder, Moab!" 24. But when the Moabites came to the camp of Israel, the Israelites rose up and fought them until they fled. And the Israelites invaded the land and slaughtered the Moabites. 25. They destroyed the towns, and each man threw a stone on every good field until it was covered. They stopped up all the springs and cut down every good tree. Only Kir Hareseth was left with its stones in place, but men armed with slings surrounded it and attacked it as well. 26. When the king of Moab saw that the battle had gone against him, he took with him seven hundred swordsmen to break through to the king of Edom, but they failed. 27. Then he took his firstborn son, who was to succeed him as king, and offered him as a sacrifice on the city wall. The fury against Israel was great; they withdrew and returned to their own land.

Structure

I. Primary problem: Jehoram does not receive tribute from Moab	4-5
A. Background Exposition: Moab was vassal to Israel	4
B. Moab stops tribute after Ahab's death	5
II. Jehoram's solution: war	6-8
A. Israelites prepare for battle	6
B. Jehoram gathers allies	7-8
1. First Diplomatic overture	7
a. War alliance proposal to Jehoshaphat	7a

b. Jehoshaphat's affirmative reply	7b
2. Second Diplomatic exchange	8
a. Jehoram's Question regarding war plans	8a
b. Jehoshaphat's response	8b
III. Secondary Problem: Jehoram's forces lack water	9-12
A. Statement of problem and circumstances	9
1. description of route: desert	9a
2. description of problem: no water	9b
B. Kings' response to problem	10-12a
1. Jehoram's outcry: blames Divine	10
2. Jehoshaphat's proposed solution: Divine guidance	11-12a
a. Jehoshaphat Question: is there a prophet?	11a
b. Answer provided by Servant: Elisha	11b
c. Jehoshaphat's affirmative response	12a
C. Statement of Action taken: Kings go to Elisha	12b
IV. Resolution of Secondary Problem	13-20
A. Meeting with the Prophet	13-19
1. Verbal exchange	13-14
a. Elisha's rebuff of Jehroam	13a
b. Jehoram's expression of possible Divine trap	13b
c. Elisha's surely reply	14
2. Action taken by Elisha	15
a. order for musician	15a
b. exposition of this action	15b
3. Pronouncement of oracles	16-19
a. First Oracle	16
1) Messenger formula	16a
2) Announcement of arrival of water	16b
b. Second Oracle	17-19
1) Messenger formula	17aa'
2) Two predictions	17ab'-19
a. concerning water	17ab'
b. concerning battle victory	18-19
B. Resolution of secondary problem: the arrival of water (fulfillment of first prediction)	20
V. (Partial) Resolution of primary problem	21-27ba'
A. Moabites assemble	21
B. The battle	22-27
1. Moabites' false impression	22-23
a. Sighting of red water	22
b. Statement of impression	23a-ba'
c. Command to attack	23bb'
2. Description of battle	24-27
a. The main fighting	24-25a
1) Slaughter by Israel Alliance	24
2) Overthrow of cities (fulfillment of second prediction)	25a

b. Siege of Kirhareseth	25b-27ba’
1) Enclosure and attack	25b
2) Moab’s attempts to escape	26a-27ba’
a) Military action: Moabite swordsmen	26a-ba’
b) Result: failure	26bb’
c) Cultic action: sacrifice of Moabite firstborn	27a
d) Result: Moabites fierce attack, Israel retreats	27ba’
VI. Narrative conclusion: Israel returns home with no tribute	27bb’

This unit is preceded by 2 Kings 3:1-3, the regnal introduction of Jehoram, with the Dtrh’s familiar assessment of a northern king. It is followed by a new topic beginning at 4:1, Elisha’s assistance to a widow. Discussions regarding any disunity of the text of vv. 4-27 are not convincing or supported by a consensus.[198] The structure, according to Long is a complex of speech events framed by two action sequences. There are three dialogues and a prophetic address. The primary characters are King Jehoram of Israel, king Jehoshaphat of Judah, the king of Edom, Elisha the prophet, and King Mesha of Moab. Jehoram was the son of Ahab and Jezebel. Pertinent to this unit is the long history of religious conflict between Elisha’s spiritual mentor Elijah and Jehoram’s parents who sponsored worship of the baals. The unit just prior to this (vv. 1-3) reminds the reader of the long standing religious discord between the Dtrh and the kings of Israel’s sponsorship of the northern sanctuaries stemming from Jeroboam’s appointment of non-levitical priests at Dan and Bethel approximately fifty years earlier (1 Kings 11; 2 Kings 3:1-3). This background feeds the discord displayed by Elisha for the northern king Jehoram, and is first evidenced in the writer’s portrayal of Jehoram in contrast to Jehoshaphat.

There is a dialectic of opposites displayed by the writer in his presentation of the two kings of Israel and Judah which adds dimension to the well worn primary plot of war and its causes. The writer sets up an interplay between Jehoram’s aggressively violent intention (vv. 6-7) and fearful dread of divine trap (v. 10), with Jehosphaphat's gracious loyalty (v. 7), and wise council to seek divine guidance (v. 11). This dialectic is again displayed, but this time voiced by the prophet who rebuffs and insults Jehoram (vv.13-14), while expressing approval of Jehoshaphat (v. 14). A deep dialectical structural turns on the prophecy of Elisha. His prediction of the arrival of water, said to be based on YHWH's word, structurally counterbalances Jehoram's dread that they would die of thirst by the hand of YHWH. The dialectic continues with the second element of the prophecy, but this time relates back to Moab's original refusal to pay tribute. The prophet's second prediction of destruction of Moabites cities does come about, forming a counterbalance to Mesha's decision to not pay tribute in the first place. The synthesis for the series of dialectics is that no one wins in war: The king of Moab loses his cities and his son, and Israel leaves during battle not collecting tribute, and according to Campbell and O'brien "has devastated the Moabite cities and will be unable to collect tribute for years to come."[199] The first dialectic between the kings of Israel and Judah finds its synthesis in the meeting with the prophet, whose action and words pull the story forward into the deeper dialectic of the Divine dealings with Jehoram and Mesha played out in the outcome of the war.

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[198] Long, 40.

The oracle from Elisha (vv. 15-19) comes after the third speech-event and before the return to the main plot. As Jehoram stands insistent in front of Elisha, with his family's history of killing the prophets, Elisha *abruptly* asks for a musician, conveying both his disdain and duty. Elisha's history of easily experiencing a connection with the Divine aided by music is stated by the narrator: "when a musician played, the hand of

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[199] Antony Campbell and Mark O'Brien, *Unfolding the Deuteronomistic History: Origins, Upgrades, Present Text* (Minneapolis: Fortress Press, 2000), 415.

YHWH used to come upon him" (v. 15b). The Hebrew *wehaya* plus participle conveys the frequentative sense. Long describes this phenomenon as having "its origin in the mysterious rush of supernatural power."[200] Cogan and Tadmor, describe the event as "the recurring ecstasis which took hold of the prophet under the influence of music."[201] They regard the phenomenon as possession, and cite the experience of Saul with the band of prophets as being similarly possessed. Commentators have little to say regarding the "the hand of God" event, the divine interconnection with the world of matter. This topic will be addressed below.

Elisha's first statement (v.16) Long describes as "cryptic, consisting only of a messenger's verbal statement, 'thus says the Lord,' and five short words: 'Make[ing] this wadi pool, pools.'" Long's assessment of this verse is that Yahweh is declaring his intentions."[202] For Cogan and Tadmor, "the imperative rendered in some versions loses the sense of the miraculous."[203] Long's translation of this verse as a declaration however would explain the double use of the prophetic formula by Elisha (vv.16a, 17a). In his first oracle statement (v.16), he (or Yahweh), is *speaking the water into existence* (Gen. 1:3), while the second oracle is the actual prediction of water (v.17). Speaking into existence was a theme for creation in Genesis 1:1-2:4a and discussed in the works of Lipton and Emoto, and again will be addressed below in terms of contemporary science.

There are two divine oracles. The first concerning water and the second concerning water and victory. Water is first spoken into existence, then Elisha states that this is an easy thing for YHWH. Again, the text contrasts opposites: Jehoram had anguished about the lack of water, while Elisha in his prophetic state dismisses it as an easy thing to have occur, the miraculous presence of water (v.18). Victory is described as YHWH giving Moab into the hand of Jehoram (v.18), using the same language as that for divine wisdom coming upon Elisha. The prophecy could and maybe should have stopped there. However, Elisha goes on to describe the unnecessary destruction Jehoram will bring upon the Moabite land, trees will be destroyed and stones will be thrown upon the fields destroying its produce. This is again another contrast of opposites. While YHWH provides water to replenish the land, Jehoram will destroy the land. The prophets emotional tone of disdain for his king, where in normal circumstances a subject would show honor for his king, is complemented with the utter irony of Jehoram's destructive excesses in the face of the Deity's abundant graciousness.

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[200] Long, 42.

[201] Cogan and Tadmor, 44.

[202] Long, 43.

[203] Cogan and Tadmor, 45.

The irony continues as the Moabites see red water over the valley. They surmise the kings have gone to battle with each other. But it is only the red clay soil which colors the water, and the Moabites brought forward by their hopes, instead fall headlong into the enemy camp instead of staying more securely behind their walls. This illusion is balanced with the illusion of Elisha's word that there will be victory for the three kings. Westbrook cites Herodutus' story of King Croesus of Lydia,

> "The King consulted the oracle at Delphi as to whether he should attack Persia. The oracle replied that if he should send an army against the Persians, he would destroy a great empire (1.53). After his defeat at the hands of Cyrus, Croesus sent his chains to Delphi to reproach the god for persuading him to attack the Persians. The god replied that Croesus had no right to complain: he should have sent to ask whether the oracle spoke of Croesus' or of Cyrus' empire. As he had not understood the oracle properly, he had only himself to blame for the consequences (1.90-91)."[204]

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[204] Raymond Westbrook, "Elisha's True Prophecy in 2 Kings 3," *Journal of Biblical Literature* 124, no. 3 (2005): 532.

In his oracle Elisha predicts first the water, and second that the cities of Moab will fall in destruction. While this comes to pass, there is not victory over Kirharaseth, though Westbrook cites that in v.25 the slingers surrounded the city and smote it, and compares the language used to that in Exod 21.12, 15 stating that linguistically the writer includes victory, with its use of "smote."[205] I feel he has missed the point. The excess destruction and aggression from Israel prompts an aggressively destructive response from the Moabites: they sacrifice their Prince over the wall. This manically rouses the Moabites into more aggressive behavior and they charge the Israelites who then flee...without receiving tribute.

The prominent form repeatedly displayed throughout this text is that for every action there is an equal and opposite reaction. The text, through its words and its form is saying that no one wins in war. The only points of graciousness are the king of Judah's unusually gracious response to the king of Israel and the Divine communication and manifestation of water even though Jehoram will use this replenishing of water to continue his pursuit of war. As an answer to solving problems through war, perhaps the text is saying through these unusual examples of graciousness, that if you need something just ask. Diplomacy had not been considered by Jehoram. This leaves the odd set of opposites of the king of Edom and the red water. Edom means red. The king of Edom has come out of the nowhere in the story, just as the red water has. Edom was a vassal of Judah's at the time, and as the first two kings' route led them through Edom, the king gets taken along, just as the red clay gets taken along with the water. Both are beneficial to Israel. With this last set of opposites, the text adds the wisdom that more than just need will be supplied, but abundance as well.[206] So stop whining, and going to war, and appreciate what you do have, otherwise there will indeed be "a divine trap."

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[205] Ibid., 531-32.

Genre

Long discusses possible genres, such as legend and historical story, with the major part of the unit comprising a battle story.[207] He also notes the convention of theological didacticism: crisis, oracle promising relief, and fulfillment of divine word.[208] He finally settles on the genre as Prophetic Battle Story.[209] As I have analyzed the story through form critical analysis, perhaps Didactic Prophetic Battle Story would be a better fit. One formulaic element of interest is the Prophetic Empowering Formula of v. 15. Verse 15 literally reads, the hand, *yad*, of Yahweh came upon him. This formula appears in 1 Kings 18:46; Isaiah 8:11; Ezekiel 1:3; 3:14, 22; 8:1; 37:1; 40:1. For Elijah in 1 Kings 18:46, the expression refers to his ability to outrun Ahab. Here, the formula arises again, this time in reference to Elijah's successor Elisha and Ahab's successor, Jehoram. Its use then would not be arbitrary, but signals that elements from the past conflict are being carried over into the present.

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[206] One could certainly make the argument that Judah procured Edom as a vassal through war. This text however, does not seem to be addressing that relationship. Its focus is Jehoram's excesses and non-diplomacy.

[207] Long, 44

[208] Ibid.

[209] Ibid., 45.

Setting

According to Long, there is insufficient evidence to suggest a typical societal setting for prophetic battle story."[210] There is certainly insufficient evidence to suggest a typical societal setting for Didactic Prophetic Battle story. If not the Exile, then when? We as a society have not yet learned the lesson from this story. Montgomery sees a popular folk setting, which seems highly unlikely considering its complex, highly structured literary organization, though certainly it could be based on tradition.[211] Sweeney places the text in the Hezekian era based on v. 19 wherein Elisha predicts the destroying of trees in war, which was a Deuteronomistic prohibition (Deut 20:19).[212] Schmitt argues that it derives originally from a folkloristic battle account that has been expanded in a Judean post-exilic prophetic setting.[213] For Campbell and O'Brien, this entire account should be dated with 1 Kings 22:

> "The place of Jehoshaphat, king of Judah, in this story and his role in it associates it with 1 Kings 22. The traditions of 1 Kings 20:1-43; 21:19b; and 22:1-38 predicate a violent death for Ahab, while the traditions of the Josianic DH assume his peaceful death (22:40)."[214]

Campbell and O'Brien place both in the post-exilic era, but reasons given are not necessarily convincing.[215] If v.22 is an etiology, for the red clay soil near Moab,[216] this would lend itself to an earlier date. Stories associated with the band of prophets (1 Sam. 10) and the miracles associated with Elijah would also support an earlier rather than later date. The didactic theology evidenced in the text that no one wins in war, may, but need not support a post-exilic setting. The character of Elisha did not retain the same tendency for violent zealotry of Elijah. His attitudes on war and violence are softened in comparison. There is a tendency in scholarship to overlay Elijah's prophecy of Elisha, predicting violence of him (1 Kings 19:15-18) and Jehu's violence towards the prophets of Baal onto Elisha attributing a violent nature for Elisha.[217] But Elisha kills no one, nor does he anoint Jehu, instead he sends another prophet to do so, which indicates Elisha's distancing himself from violence. 2 Kings 3 displays a highly structured literary organization suggesting a prophetic literary setting, in the Deuteronomic tradition, possibly in a pre-DH setting.

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[210] Ibid., 46.

[211] James Montgomery, A *Critical and Exegetical Commentary on the Book of Kings* (Edinburgh: Clark, 1951), 358.

[212] Sweeney, 283.

[213] Hans-Charles Schmitt, *Elia: Traditiongeschichtliche Untersuchungen Zur Vorklassichen Nordisraelitischen Prophetie* (Gutersloh: Gutersloher Verlagshaus, 1972), 43-46.

[214] Campbell and O'Brien, *Unfolding the Deuteronomistic History,* 415.

[215] Ibid., 404-7.

[216] Sweeney, 284.

Intention

The story relates a battle in which neither side wins. The king of Moab has sacrificed his son over the wall, which rouses the Moabites into a furious zeal and the original aggressors, the Alliance, must flee. The reader is "shaken" by the ending, which does not reflect the "conventions of biblical accounts of battle."[218] YHWH had led Israel into war after the Exodus. With the insistence on the ban, the Israelites were not to prosper from the takeover but only to secure the land. Here however, Jehoram's intention is to secure tribute, the 100,000 sheep; his intention is not to keep an alliance in order to hold onto the land, but to prosper. Jehoram has missed YHWH's wisdom, and so have we readers when we are shocked by the outcome.

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[217] Long, 32; Wilson, 200.

[218] Long, 47.

That neither side wins and we are left horrified by the ending is reflective of the account of Elijah slaughtering the prophet's of Baal. This story of 2 Kings 3 captures such a lesson, as such, its primary intention then would be didactic theology. In contrast to the one other text which relates music and prophecy, with Saul falling into a prophetic frenzy, here, Elisha is very calm and rational. This rational peacefulness stands in contrast to the irrational reasons for war and the frenzied events of war itself. As Long notes, the oracle of Elisha forms the heart of the story,[219] and it is from this Divine inspired center that wisdom has come. Jehoram's irrational pride had led him into declarations of war (diplomacy was not considered), while the second oracle appeared to prophesy victory leading him further into conflict. Jehoram had expressed to Elisha that he felt it was YHWH's trap to lure him out to the desert to die of thirst. His suspicions were proved true in one sense, for he was lured forward into battle expecting victory. His passion of pride was the motivating factor driving him forward, while YHWH seemed to compel him forward in this movement (through Elisha's prophecy) only to let him experience the horrors of war. The reader, if not Jehoram, learns the wisdom offered from this story, that no one wins in war, war does not solve the original problem, and it creates unexpected horrors. This wisdom may not have been provided had Elisha not provided the prophecy about the water and the war.

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[219] Long, 45.

An Application of Contemporary Science to 2 Kings 3

The intention for choosing this unit was that it provided an example of the Spirit connecting with matter (the hand of God) in terms of prophecy and music, and to go beyond descriptions for the prophecy event in terms of it being of a "supernatural" nature or "possession." The prophecy has come through the mind of one who has witnessed the horrors of violence; Elisha was well acquainted with Elijah's slaughtering of the prophets of Baal. This prophecy by Elisha which in turn provides the didactic theology of the story has not come from any other prophet, not Abraham, Moses, Samuel, or Elijah. It is Elisha with his particular experience who is the bearer, with his particular life experiences. The writer reflects disillusionment with war. By the same logic, Elisha has observed the horrors of violence in Elijah's slaying of the prophets. This would suggest that the wisdom of God even in prophecy comes through one who at least on some level intuits that particular wisdom, that the constituents of one's life are formative for receiving any particular prophetic message. The connection between Divine and human in terms of prophecy then would be dependent upon (though certainly not exclusively) the actual physical and social events of the life of that prophet.

The constituents of matter itself aid in this Divine communication. The musical instrument is said to be used by Elisha on a regular basis to stimulate this connection. The musician who plays the instrument forms part of the nexus to enhance communication, as well as the composer if he or she is not the musician him or herself. The sound waves emanating from the instrument convey the music. The physical-biological makeup of any prophet allows the person to receive and internally organize this energy and information from the sound waves. Within the brain, the pulses of information begin to flow in a rhythm supplied by the rhythm of the music. A flow state occurs of photonic energy. Austin (whose work has been referenced above) had described that in a meditative state, one may experience connection with the All. In the highest state of meditative consciousness, level nine, things happen with a light touch. In Elisha's declarative statement, he is calling water into existence: "Make this wadi pools, pools." As Emoto's research indicates speaking over matter transfers information and energy from the speaker to matter, altering the formal structure of matter.

Predicting the future, as discussed earlier (in Chapter Four and in the unit on Genesis 37) is possible for quarks, organisms, animals, and humans. Consciousness occurs when different regions of the brain are receiving photonic energy. Elisha's memory, wisdom, and religious intuitions already present are a part of the internal mix. Jehoram is standing *in front of Elisha* lamenting his concerns of a possible **divine trap**. The prophecy then becomes a divine trap.

Cogan and Tadmore offer Wilson's identification of possession for Elisha's prophetic event. Possession by a deity does not fit what was described in the text. Wilson's description of trance state rather than possession seems more applicable to this text. He lists ten items characteristic of trance:

> 1) changes in thought processes, including alterations in concentration, attention, memory, and judgment, 2) distorted perception of time, 3) loss of conscious control over physical and mental processes, 4) uninhibited expression of rapidly changing emotions, 5) changes in body-image, sometimes involving feelings of isolation from reality or of an expanded consciousness, 6) distortions of perception, including hallucinations, 7) altered views of the meaning or significance of events, including experiences of 'illumination' or profound insight, 8) inability or reluctance to communicate the trance experience, sometimes involving amnesia with respect to everything done and said in trance, 9) feelings of rejuvenation, and 10) extreme sensitivity to suggestions, instructions, or commands.

Similar descriptions are found in Austin's discussion of meditative states of consciousness in Levels Five - Nine.[220] A Level Five meditative state is identified as a Heightened, Emotionalized Awareness without Sensate Loss.[221] Level Six is Absorption, with degrees of sensate loss ranging from External to Internal Absorption.[222] External absorption is described as focus on an external source, an object or nature itself. In the case of Elijah, his focus would be Jehoram and his request for water for his troops and animals. At this level there is little to no sense at all of the bounded self, and loss of a sense of time and place, with sensate perception as higher in External Absorption rather than Internal Absorption, which would be the case here.[223] In External Absorption, heightened awareness is not emotionalized. After the experience, there is a feeling of "some sacramental quality."[224] At the top three levels of the nine levels of a meditative state one experiences "a loss of the bounded self."[225] Level Seven is identified as Insight-Wisdom. Elisha's prophecy constituting a divine trap displays this. Jehoram looking forward to victory as indicated in the prophecy, plunges forward into war and destroys Moab's lands, taking with it their future ability to pay tribute. At this level there is the highest intensity of external sensate awareness. This awareness is of Oneness.[226] Elisha's prophecy takes in the natural environment, calling into existence and predicting water, as well as the individuals and their needs, and the character of Jehoram. Awareness at this level is Enlightenment.[227] Level Eight is Ultimate Being beyond Expression.[228] It is an experience beyond seeing and knowing, described as "a state of grace."[229] Elisha, regardless of his feelings for Jehoram, listens to him and calls water into existence, though he says this is for Jehoshaphat. Level Nine is The Stage of Ongoing Enlightened Traits.[230] There is a sense of the unbounded, both externally and internally. There is an awareness of the Suchness of all things. The normal sense of the bounded self is experienced as "free access without bound" and the sense of time and place is "free access without limitations." Elisha predicts the future. Sense perceptions are high. There is a sense of selfless compassion. Such enlightenment traits are not superficial, but genuinely endure in one's character. Elisha's character is revealed throughout the Elisha cycle, as repeatedly providing for the needs of others. At this level there is also a sense that in the flow of events positive things happen with a light touch.[231] This is the stage of "self-fulfilling" activity.[232]

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[220] Austin, 300-03.

[221] Ibid., 301.

[222] Ibid., 302.

[223] Ibid.

[224] Ibid.

[225] Ibid., 303.

[226] Austin, 303.

What Wilson and Austin's study have in common is that the individual in a heightened meditative state, or trance, experiences a loss of the normal perception of place and time, an alteration of emotional sensations, concentration, and attention, expanded consciousness, illumination, and insight. Austin's study includes a final stage that Wilson's does not include: the meditative practitioner may experience an unusual ease to effect changes upon the physical world. Wilson's study is approximately twenty years earlier than Austin's and would be more likely to reflect the Mechanistic paradigm, while Austin's incorporates contemporary science. Elisha is expanding his consciousness, connecting both to the world of Nature around him and into the future. Austin's studies of meditative states shows that one who has practiced contemplative meditation or prayer, would be more inclined to feel a oneness with the All and would be able to alter things with a light touch. Elisha speaks water into existence, predicts its arrival and predicts a future outcome for the battle. According to Austin's study, such an event, while rare, is a natural outcome for one who religiously practices meditation or prayer.

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[227] Ibid.

[228] Ibid.

[229] Ibid.

[230] Ibid.

[231] Ibid.

[232] Austin, note, 303.

To reach a heightened spiritual state so quickly, music is highlighted as an aid. Music is patterned sound, a formal arrangement of tones and rhythms, in contrast to "noise" which does not have patterns.[233] Music has Form, *Logos*. As sound, the music travels via mechanical energy waves through the air to be received and taken in by the listener. Repetition of a tone is a pulse of vibrational energy received by the listener. The pulse of vibrations enter the ear and cause the eardrum to vibrate. The vibration travels along the bones of the middle ear to the cochlea, a spiraled shaped structure. Hair cells inside the cochlea bend and stimulate sensory nerve fibers. The nerve fibers translate the vibration into electro-chemical pulses of photonic energy which travel to the auditory cortex of the brain.[234]

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[233] Ter Ellingson, "Music: Music and Religion" in *The Encyclopedia of Religion*, 2nd ed, 9:6249.

[234] Kotulak, 27.

"Music uses formal devices such as cyclicity, repetition, contrast, variation, and development of one pattern of organization into another." Rhythms are comprised of patterned accents of long and short durations of sounds. The most fundamental time structuring device is repetition.[235] Repetition is a common element of religious music, such as the drum beat in African religion, or the chant in Buddhist ritual.[236] Any repetition draws focus and attention.[237] As the melody line changes, the listener's focus is then drawn along the mathematical organization of this melody. The patterns of organization may recur in cycles building in intensity to a climax.[238] Intensity is heightened by changing the original pattern. This can be done in various ways: 1) by beginning with notes at the lower end of the musical scale and then taking the listener through an auditory path to the higher notes, which transcend the harmonies of the lower notes; 2) a slow beat rising to a faster pace; 3) soft, quiet sounds steadily rising in volume. These techniques draw the listener along a transcending path. The climax transcends the repeated tones of structured patterns; there is a transcendence of the former patterns.[239]

As Ellingson states, "music and religion both have a transformative power, and when the energies of music and religion are focused on the same object ... intensification reaches a peak greater perhaps than either might achieve by itself."[240] "The 'otherness' of music and the 'other' levels of reality encountered in religion merge into a heightened synthesis of religious musical experience."[241] In the language of Complexity Theory, there is amplification of energies, the musical energies and spiritual energy. In the Neurological studies of Newberg, D'Aquill and Rause, the rhythmic energy of music sets into motion the deafferentation affect in the brain: the orientation center in the brain is deprived of energy, while the more primal area of the brain, the hypothalamus receives an overflow of electrical pulses, photonic pulses of light.[242] Concerning the religious aspect which combines with the incoming music, Elisha is facing an ethical issue: regardless of his animosity for Jehoram, as Long states, "the three kings and their animals need water." Elisha's brain literally lights up with photonic energy supplied by the scene in front of him and the music.

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[235] Ellingson, 6254.

[236] Ibid.

[237] Ibid.

[238] Ibid.

[239] Ibid.

[240] Ibid., 6252.

The patterns of the music combine with the patterns from the life of Jehoram – his insistence that he must be paid tribute, his fearful intuition that a divine trap may be afoot, are all standing there before Elisha. As the music transcends into complex patterns, and Elisha's thoughts transcend the patterns of Jehoram's immediate past and present, consciousness of the immediate future for Jehoram is not such a quantum leap. Elisha extrapolates the data, whether consciously or not. His unique neuronal scaffolding, and the microtubules from dendrites across regions of the brain flow with light, an energy which is amplified by the vibrational energy of the sound waves converted to electrochemical pulses of light. From Elisha comes the prediction of Jehoram taking over the many cities of Moab and destroying the environment. In the

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[241] Ibid.

[242] Andrew Newburg, Eugene D'Aquill and Vince Rause, *Why God Won't Go Away,* 114-15.

Form critical analysis, a repeated feature of this text was the dialect: thesis, anti-thesis, leading to a higher synthesis. Once again, the Form of the writing itself provides an intuitive clue to understanding the connection between the Spirit and matter: Meditation regarding Jehoram and his entourage and the intelligent Forms in Music (the *Logos*) have come together in Elisha's mind and have led to the synthesis of heightened emergent consciousness and Being, the prediction of the future and the appearance of water spoken into existence. Information from the past and present environment and Elisha's evolved neuronal scaffolding carry forward the energy of light leading to transcendent wisdom.

The Transformation from Soul to Spirit
1 Corinthians 3:1-9

The following biblical texts include the concept that the spirit is the soul transformed: 1 Corinthians 2-3; 15:2; Philippians 1:25; 3:11; Galatians 4:19; 1 Thessalonians 5:23; 1 Peter 2:2. The focus text will be 1 Corinthians 3;1-9. In this text Paul describes stages of spiritual development in interaction with the Spirit of God. In commentaries, the activity of God is emphasized, though certainly not described, while the human efforts and effects are de-emphasized in the transformation of the person to spiritually maturity. Conzelmann, Montague and Moody do not even mention the efforts of Paul, much less Apollos in terms of the transformation of the individual from a fleshly or psychically oriented person to a spiritual individual.[243] Orr and Walther indicate the efforts of Paul in bringing faith to the Corinthians, but this is quickly set aside to theologically emphasize the activity of God.[244] The intent here is not to de-emphasize God, but to provide as full an account of natural explanations as possible. In the analysis of Genesis 1 offered above, the conclusion was that human beings and the creation in general are reflective of God's creative, intelligent, nurturing power. As co-creators in our world, reflective of divine creative power, we need not de-emphasize human effort in order to be theologically oriented, but on the contrary should seek to understand ourselves better as God's creation. The text discusses the efforts of Paul and Apollos in terms of the spiritual growth of the Corinthians, while Paul states that the growth is given by God. The interaction between Spirit and matter presented in this passage is that spiritual growth comes from God, yet, *the majority* of this passage describes the human effort invested towards this growth, suggesting it is worth investigating further.

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[243] Hans Conzelmann, *1 Corinthians: A Commentary on the First Epistle to the Corinthians*, trans. James Leitch (Philadelphia: Fortress Press, 1975), 74; George Montague, *The Holy Spirit: Growth of a Biblical Tradition* (New York: Paulist Press, 1976), 137; Dale Moody, *Spirit of the Living God,* rev. ed. (Nashville: Broadman Press, 1976), 91.

[244] William Orr and James Walther. *I Corinthians* (Garden City, NY: Doubleday., 1976), 170. Moody, 91-92; Conzelmann, 74-75; Montague, 137.

Text

3:1 But I, brothers (and sisters), could not address you as spiritual persons but as persons of the flesh, as infants in Christ. 2. I fed you with milk, not solid food, for you were not yet able to take it. Indeed, you are not able to take it even now, 3. for you are still people of the flesh. For while jealousy and strife are among you, are you not of the flesh, and behaving according to human (standards). 4. For when someone says "I belong to Paul," and another says, "I belong to Apollos," are you not on the human plain of standards?

5. What then is Apollos? And what is Paul? They are servants by whose efforts you came to faith and they serve as the Lord has given ability to each one. 6. I planted, Apollos watered, but God caused the growth. 7. So neither the one who plants nor the one who waters amounts to anything; but the important one is God, who gives growth. 8. The one who plants and the one who waters are equal., though each will receive his own reward according to his own labor. 9. For we are God's fellow workers; you are God's field, God's building.

Structure

I. Paul's Defense	1-4
A. Explanation based on past state	1-2a
1. reason: I could not address you as spiritual persons	1a
2. statement of contrast: but as persons of the flesh	1b
3. additional statement of contrast: infants	1c
B. Explanation of action taken	2a-c
1. statement of action taken: I fed you with milk	2a
2. contrast statement: not solid food	2b
3. reason: Corinthians not ready	2c
C. Explanation based on present state	2d-4
1. reason: still not ready	2d
2. rhetorical question: evident jealousy and strife	3
3. rhetorical question: evident boasting of leaders	4
II. Example offered of Cooperative Roles of leadership	5-9
A. Apollos and Paul	5
1. rhetorical question: regarding Apollos	5aa'
2. rhetorical question: regarding Paul	5ab'
3. Answer	5b
B. Statement of actions	6
1. statement of Apollos' action	6a
2. statement of Paul's action	6b
3. contrasting statement of God's action	6c
C. Statement of value	7
1. negation statement of value for Apollos' work	7a
2. negation statement of value for Paul's work	7b
3. contrast statement of God's value of activity	7c
D. Statement of Equalization and Purpose	8-9
1. Statement of equality of efforts	8
2. Statement of commission status	9a
3. Statement of purpose of efforts	9b

In 1 Corinthians Paul is responding to an oral report (1:10) and a written report (7:1). He has stated the general problem in 1:10, that there is quarreling and division[245] among the Corinthians. An itinerant preacher addressed directly in 4:7[246] has presented teachings

different than Paul's and there is boasting based on loyalty to rival leadership.[247] What and how this leader preaches is contrasted polemically to Paul's message of proclamation in 1:18-2:16. Specifically, eloquent wisdom speech is contrasted with the *Logos* of the cross.[248] Unlike the teachings of the other unnamed leader, the message of the cross which Paul preaches has the power of "reclamation and remaking of the victims of sin and death."[249] Paul defends himself in 2:6, stating that among the spiritually mature he has indeed imparted wisdom, implying that the spiritually immature did not comprehend the insights of Paul's message. In 2:14-16 he directly contrasts the unspiritual person, the *psychikos*, who is unable to comprehend spiritual truths, with the spiritual person, the *pneumatikos*, who is able to comprehend.

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[245] P46 attests to *schisma* in the singular.

[246] The address changes to the singular, *se*, whereas prior to this the address was in the plural, *umas*, to the Corinthians in general.

In this unit of 3:1-9 Paul offers a defense of why he did not offer the Corinthians "wisdom" speech based on his assessment that they were not ready for it. He also presents a model of cooperative leadership between himself and Apollos, again, in contrast to "the other builder" referenced but not mentioned by name in 4:7.[250] The first half of this unit, 3:1-4, Paul provides a defense as to why he could not preach the deeper mysteries of God to the Corinthians. In 3:5-9 he offers a cooperative model of leadership of himself and Apollos. In 3:10-23 Paul presents a subtle contrast (with the exception of v.17 which is not subtle at all) of uncooperative leadership in terms of "another" builder

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[247] Orr and Walther, 150

[248] Ibid.

[249] Ibid., 160.

[250] Following Chrysostom's view, Hall regards the purpose of Paul's *metaschematismos*, change of form, to be from one set of people into Paul and Apollos. The Corinthians are displaying party spirit for rival teachers (in the plural for Hall) so Paul presents a model of cooperative leadership in contrast. David Hall, "A Disguise for the Wise: *Metaschmatismos* in 1 Corinthians 4:6," *New Testament Studies*, 40, no.1 (Jan. 1994):143-49. A. Hausrath argues for one rival teacher, and not four parties at Corinth.

(the other builder) who is bringing teachings which do not edify and cause division. In 4:1-6 Paul offers a summary of what he has been discussing, that he and Apollos are equal, and trustworthy, and states that he has applied all of this to himself and Apollos in order that no one be puffed up in favor of one against another (4:6). The "applied" is actually *metaschisma,* changed the scheme of.[251] Paul has changed the scheme of his example: he illuminates the situation at Corinth of a boasting teacher and loyalties being divided in the church, to the colleagueship of himself and Apollos. Scholarship since Calvin has searched for the four parties of 1:12

> "For it has been reported to me by Chloe's people that there is quarreling among you, my brothers and sisters (1:11). What I mean is that each one of you says, 'I belong to Paul,' or 'I belong to Apollos' or 'I belong to Cephas,' or 'I belong to Christ" (1:12).

A. Hausrath has demonstrated that there are not four parties, this is what Paul has changed the scheme of.[252] There are two parties (the weak and the strong), and one division. There is the party led by the other builder who is not providing edifying leadership (the strong), and the others who follow Paul's teachings and watch out for "the weak," mentioned in 8:7. Paul has not directly, but rather covertly, addressed this issue in 3:1-9 (in which he offers cooperative leadership), but in 4:7 he takes the direct approach and addresses the other builder head on.

> "For who sees anything different in you (in the singular)? What have you that you did not receive? If then you received it, why do you boast as if it were not a gift?"

Here Paul takes on the arrogance of the other builder and the issue of boasting. Then from 4:8- 6.20 Paul addresses, with sarcasm, the un-edifying teachings of the other builder (six teachings) and provides appropriate teachings to counterbalance them. Throughout chapters 1-6, Paul is defending himself and his teachings against this other builder and providing damage control for a church slipping under the influence of a libertine, wisdom teacher.

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[251] Hall, 143-49.

[252] Adolf Hausrath. *Der Apostel Paulus* (Heidelberg: Bassermann, 1872).

In 3:1 Paul begins his defense of 3:1-4 with a statement that they were not spiritually advanced enough to receive esoteric teachings (as the other builder seems to the Corinthians to have provided). In 3:1b he calls the Corinthians *sarkinois*, people of the flesh, or those who are "still physically oriented" according to Walther.[253] A tripartite anthropology has been offered by Paul in his defense in 1 Corinthians 2-3. This division consists of the *sarkinoi*, the *psychinoi,* and the *pneumatikoi* – the people of the flesh, the people of the soul, and the people of the spirit.

Birger Pearson presents a thorough use of tripartite anthropology terminology in Hellenistic Judaism and Gnosticism in Paul's historical context.[254] In Pearson's findings he states that the distinction is found in Plato's *Timaeus*,[255] and as was cited above, that the body is fashioned by the gods, whereas the immortal soul is created directly by the Demiurge, with the divine seed placed in the head. Pearson's findings show that the *Pneuma-psyche* differentiation is a Jewish version of the *nous-psyche* differentiation of Hellenistic thought.[256] For Philo the higher part of the soul is the mind, creating a three-part division of body, soul, mind.[257] Philo also cites three classes of people in *Leg. All* 1.90ff, with an earlier view of three classes of people provided much earlier by Pythagoras. In Gnostic texts a three part division is prevalent, as well as three anthropological classes of people.[258] Paul's tripartite anthropology is also evident in 1 Thessalonians, Galatians, and Philippians.

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[253] Orr and Walther, 170.

[254] Birger Pearson, *The Pneumatikos-Psychikos Terminology in 1 Corinthians: A Study of Theology of the Corinthian Opponents of Paul and its Relation to Gnosticism,* Society of Biblical Literature, Dissertation Series, no. 12 (Missoula: MT: Published by the Society of Biblical Literature for the Nag Hammadi Seminar,1973).

[255] Plato *Timaeus* 41a,d; Pearson, 55.

[256] Pearson, 82.

Whereas in 3:1 Paul stated that in the past the Corinthians were not pneumatics, and "did not have the capacity to receive spiritual truths,"[259] in 3:2b he states "even yet you are not ready." As evidence of this he cites the jealousy and strife among them. As Walther points out, in the Thanksgiving, Paul does not thank the Corinthians for their love and generosity as is his custom in a thanksgiving.[260] Regarding the nature of spiritual maturity in terms of love for one another, Kees Waaijman in *Spirituality: Forms, Foundations, Methods* addresses spiritual transformation in love as a process of reaching out to God, the movement of God toward the soul, and the intimacy of the Spirit of God within.[261] "In the transformation of love each gives possession of self to the other, and each leaves and exchanges self for the other.[262] Thus, each one lives in the other and is the other, and both are one in the transformation of love."[263] The jealousy and strife and party loyalty (v.4) cited by Paul represents a relationship of division rather than oneness.

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[257] Pearson, 19. Though Philo also distinguished between body, soul, and spirit.

[258] Rudolph, 91; Layton, 400.

[259] Walther, 170.

[260] Ibid.

[261] Kees Waaijman, *Spirituality: Forms, Foundations, Methods,* trans. John Vriend, Studies in Spirituality, Supplement 8 (Leuven: Peeters, 2002), 469.

[262] Ibid.

[263] Ibid.

The indication by Paul is that the transformation of love extended from Christ's example and the Spirit of God is to extend outward from the individual to the others in the Church. The absence of this spiritual quality of love as witnessed in their jealousy and strife indicates to Paul that the Corinthians are not yet people of the spirit. Had they had this interconnection with the Spirit of God their behavior would reflect this.

In part two (vv. 5-9) Paul seeks to heal the division through intellectual discourse. The answer to his two rhetorical questions is that the two leaders he cites are both servants[264] of God "through whom you believed." In this, they are performing the same function, and so this oneness of equality is juxtaposed with the division displayed by the Corinthians. His statement in v. 5d that Paul and Apollos' work is commissioned by God draws out the model of interconnection to the Divine that is lacking in the Corinthians and serves as an additional juxtaposition of behavior. Paul had drawn on the idea of equality and oneness and now in v. 6 he emphasizes that there is distinction in the unity. Paul will make this similar distinction in his discussion of gifts of the Spirit in 1 Corinthians 12, as Conzelmann notes.[265]

The agricultural metaphor of planting and watering implies that there is a seed, which in this context would be the divine seed, or *logos spermatikos* of Stoic thought. Paul as Apostle, one sent, has brought this divine seed and planted it, while Apollos has nurtured its growth.[266] Conzelmann states that the metaphor must not be pressed because it would appear that Paul had only made converts and Apollos had only guided them.[267]

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[264] Conzelmann notes the appropriation of the Cynic concept of servant. Conzelmann, 73.

[265] Ibid.

[266] Contra Conzelmann 73.

[267] Conzelmann, 73.

While the distinction of "only" should not be pressed, Paul does identify different general functions and the metaphor indicates different processes in time. The identification of different specific functions makes stronger Paul's case for cooperation among leaders if each has a specific task, then one is indeed dependent upon the other. The Corinthians have believed because of Paul's and Apollos' efforts.

In v. 6 Paul has emphasized cooperation in a dialectic of unity and specificity. The antithesis of these efforts arrives in v. 7 as Paul here downplays the role of himself and Apollos, mirroring the use of the word servant in v. 5, and highlights the activity of God who causes the growth. By downplaying his efforts, Paul is providing *a model of humility in contrast to the arrogance of the rival wisdom teacher* Paul addresses in 4:7 ("If then you received it, why do you boast as if it were not a gift?"). In v. 8 Paul equalizes his efforts: he had brought out his and Apollos' efforts in v. 6ab, then downplayed those efforts in contrast to God's, now he expresses a middle ground of estimation that each shall receive wages for energy expended. And again he indicates equality between himself and Apollos in antithesis of the rival wisdom teacher who is raising himself above others in his boasting. In finishing, in v. 9 "the accent is on God" as Conzelmann notes.[268] Previously, the focus was on cooperation between workers providing a model in contrast to the over emphasis upon the rival wisdom teacher from some in the community. By placing the accent on God in the denouement of the unit, Paul draws out the image of God's power at work through the efforts of Paul and Apollos (v.9a: "For we are God's fellow workers") and with 9b ("you are God's field") he illustrates that the trajectory of this power is the Corinthians themselves. With the metaphor of the Corinthians as the field, he completes his agricultural theme. Verse 9 evokes the image of an illuminating ray of power from heaven piercing through the workers to the field below causing energetic transformation and growth. This image provides an antithesis to the image painted in section one, in which God's power did not shine through and produce transformation. Paul's last statement in v. 9c is again metaphorical, but the imagery shifts from the agricultural to the architectural ("you are God's building"). Conzelmann describes the overall shift in metaphorical imagery in vv. 5-17 from planting, to building, to building material, to the testing of the material. Verse 9c functions as a transition in this shift of metaphors.

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[268] Ibid., 75.

Overall, Paul is defending himself and his teaching in contrast to the rival wisdom teaching who is teaching a doctrine that does not align well with what Paul has taught. In this unit, he must explain to the Corinthians that he could not offer mature teachings because they were not ready for it. He cites their jealousy and division among them as proof of their spiritual immaturity. He then subtly takes on the strife stirred up by the rival wisdom teacher, by providing an example of cooperative leadership between himself and Apollos. What the successive leaders teach should build upon what the other has taught and this then should lead to the spiritual maturation of the Corinthians. This was the case with himself and Apollos; this was not the case with the other builder. In the next unit, Paul addresses the leader himself, (though not by name) and then addresses specifically his teachings and corrects these teachings.

Genre

1 Corinthians is a letter, an epistle, by Paul to the church at Corinth. As letter, there is a specific occasion for the letter, it is as Conzelmann states, "genuine correspondence" but it is correspondence from an Apostle, and as such contains "expositions of a fundamental kind."[269] It is a response to both a verbal report by Chloe's people and a letter received (1:10; 7:1). The specific problem to be addressed concerns a rival wisdom teacher who has arrived teaching views different from Paul's and causing division in the church. In 3:1-9, the first half, vv. 1-4 is a defense and the second half, vv. 5-9 is an exposition of cooperative leadership. It is a logical argument, a diatribe,[270] which employs rhetorical questions, metaphors, and an example of cooperative leadership offered in subtle contrast to the non-cooperative leadership of the itinerant preacher of 4:7.

Setting

Paul had first come to Corinth from Thessalonica by way of Philippi.[271] He stayed in Corinth establishing the Christian community, then after eighteen months found his way to Ephesus, where he stayed for approximately three years. Paul writes this letter to the Corinthians from Ephesus, according to 16:8. 1 Corinthians is the second letter Paul wrote to the church there, the first (0 Corinthians) mentioned in 1 Corinthians 5:7 has been lost. Apollos, Timothy, Titus, Priscilla, and Aquila worked with Paul at

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[269] Ibid., 6.

[270] Ibid.,73.

[271] Calvin Roetzel, *The Letters of Paul: Conversations in Context*, 4th ed. (Louisville: Westminster John Knox Press, 1998), 83-85.

Corinth.[272] It is Timothy who dispatches this letter in response to the verbal report and written letter received from the Corinthians.[273] Itinerant preachers, a constant source of differing perspectives on the nature of discipleship, are polemicized against in Paul's letters. Here the itinerant preacher is spoken to directly in 4:7 and is regarded as the source of the division Paul is trying to heal. The Corinthian correspondence is dated to 53-56 C.E, this date is determined based on reference in Acts 18:12 that Paul was in Corinth when Gallio was proconsul, and the Gallio stone in Delphi, which indicates, with calculations, that he was proconsul in 51.[274] Factoring in the 18 months spent at Corinth, gives an approximate year of arrival in Ephesus as 53. The full letter can be found in P46.

Intention

The intention of this unit is a defense and then an exposition of cooperation between workers as Paul explains in 4:6, in contrast to the other builder of 4:7 who speaks eloquently, offers esoteric wisdom, and then boasts in his own abilities. Paul has to battle two fronts: He must explain to the Corinthians why he did not bring advanced teachings and battle the rival wisdom teacher who is still there, conceivably with more direct influence than Paul who is away. The answer to the first problem is that the Corinthians were not and still are not ready for spiritual truths. In answer to the second he illustrates to the Corinthians that boasting in one's abilities discounts the work of other leaders and the activity of God.

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[272] Ibid., 85.

[273] Ibid., 85.

[274] Conzelmann, 12-13.

An application of Contemporary Science to 1 Corinthians 3:1-9

This unit offers a Pauline concept of transformation of a person from a fleshly to a spiritual person. Commentators will point out that the Corinthians do not have the capacity to receive spiritual truths,[275] that they are immature rather than mature Christians.[276] Moody's offers an analogy of a radio, in that the Corinthians do not have the receptors to receive the message.[277] Some will indicate the efforts of Paul in bringing faith to the Corinthians, but this is quickly set aside to emphasize the activity of God.[278] This suggests that there is a divine implantation of spirituality, particularly when commentators do not go further to indicate Paul's efforts *in relation to* the spiritual growth and transformation of the soul over time.

It is evident in Paul's use of language that he is expressing a transformation of growth over time of the fleshly or soul-ish person to the spiritual person. The Corinthians spiritual capacity is contrasted by Paul with the use of *nipioi*, infants, in v.1 and *sarkikoi*, people of the flesh, in v.3 with the statement of v. 2 that they were not and are not yet ready for address as *pneumatikoi,* spiritual people (v. 1). In 2:14 he states that the *phyikos anthropos*, psychic or soulish person, does not receive the *pneumatos*, usually translated spiritual gifts, of God. Moody points out that prior to the second century, *pneumatos* is only found in the writings of Paul, Philo, and 1 Peter.[279] (In Philo, *De Leg All* 3.30; 3.159 and 1 Peter 4:10). Paul's view is not divine implantation of gifts of God to transform a person from a natural state to a spiritual human being. He is expressing a process over time of spiritual growth and transformation. In Paul's use of agricultural metaphors in v.6 he further compounds his concept that spiritual transformation concerns a process of growth over time.

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[275] Orr and Walther, 170; Moody, 91-92.

[276] Ibid.

[277] Moody, 91.

[278] Orr and Walther, 170; Moody, Conzelmann, and Montague do not mention the efforts of Paul in their discussions of this passage. Moody, 91-92; Conzelmann, 74-75; Montague, 137.

While in v. 6 this transformation is shown to be dependent upon the efforts of the leaders, specifically Apollos and Paul, commentators too quickly emphasize v.6c the activity of God in this process ("I planted, Apollos watered, but God gave the growth").[280] In fact, in one commentary it is said "no one can assign much importance to what Paul or Apollos did."[281] With this I strongly disagree. As noted earlier, while Paul downplays his effort in v. 7 this is *in contrast* to the boasting of the other builder. There is a three part process in time: 1) Paul brought the message, 2) Apollos nurtured the growth, 3) God causes the growth (v. 7c). The causal connections of how Paul and Apollos' work affects the transformation of spiritual growth will be analyzed in terms of contemporary science.

Paul planted, and here we must fill in the metaphor of the implied seed. For Conzelmann the metaphor of planting is general in Judaism (Lib, Or 13.52; Od. Sol. 38.17-21).[282] In Greek philosophy Plato envisions the divine seed, *to theion sperma*, within all living creatures.[283] The Stoics describe the *logoi spermatikoi* in matter as the shaping seeds which give form.[284] Paul's planting is his bringing of a particular form of the Christ message, a shaping seed, in that the receiver of the word becomes transformed over time, from immaturity to Christ consciousness. The later view expressed in 1 Peter 1:23 is that one is born anew of an imperishable seed, while for Paul one is transformed in orientation.

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[279] Moody. 91-92.

[280] Orr and Walther, 172.

[281] Ibid,, 171.

[282] Conzelmann., 75.

The message that Paul brought most likely was "the bare minimum of the gospel."[285] Orr and Walther state that this gospel was "presumably that Paul announced to them that Jesus Christ, the son of God, had delivered them from their sins on the cross..."[286] This assessment sounds more Johannine. In 1 Corinthians 15:3f Paul gives a sketch of his initial message. In this he states that Christ died for our sins in accordance with the scriptures. And the resurrected Jesus appeared after his death to many witnesses. The scriptures presumably are the suffering servant texts of Isaiah, specifically noted is Isaiah 53:5-12.[287] While the suffering servant texts refer to Israel as a whole, they have been re-signified in Christian tradition. Justin Martyr early in the second century compared the story of Jesus' death to those of the Greek heroes. Such stories include one fighting for a cause, death, ascension into heaven, then proclaimed to be son of a god, and finally that their stories provide a model for character development.[288] The story of Christ was presumably proclaimed by Paul in terms the Greek Corinthians could relate to. And this proclamation was, metaphorically, the seed he planted.

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[283] Plato *Timaeus* 73d.

[284] Zeller, *The Stoics*, 135, 139, 158, 161.

[285] Orr and Walther, 170.

[286] Ibid.

[287] Nestle-Aland column notes.

Paul's planting requires energy, information, and matter. At the most foundational level, Paul extended energy into the church, in the form of his extensive travels, his letter writing, and his proclamation. In *Linked: How Everything is Connected to Everything Else and What it Means for Business, Science, and Everyday Life,* Albert-Laszlo Barabasi states that an important aspect of Paul's success in spreading Christianity was that he used existing social networks effectively.[289] By using the social networks from Jerusalem to Rome he traveled to the largest communities of his era, "planting the faith."[290] From these communities, the new converts again used their social networks to spread the faith.

In the language of Complexity Theory, Paul's proclamation used energy, information, and matter. His proclamation required the work of his material body and brain, the electro-chemical energy of systems of organisms within body and neural networks in the brain, and the information stored in his mind dependent upon that electro-chemical flow of energy. The transfer *of information itself* requires energy. The sound waves of his proclamation are received by the listeners before any internal processing can occur. Energy in the form of sound waves is taken into the receptors in the ears, converted into electrochemical signals, which then travel along nerves to the brain cells.[291] Sound waves are the medium for the message to be received by the listeners. I bring in here Moody's analogy of the radio; the Corinthians must have the receivers.[292] Reception of information is in two senses. First, there is the formal receiving of the sound waves, mechanical energy, into the ear canal.[293] These sound waves carry encoded information.[294] Sound waves enter the ear and cause the ear drum to vibrate. The sound waves vibrate through the canal of the middle ear to the cochlea.[295] The hair cells inside the cochlea bend by this mechanical energy and stimulate sensory nerve fibers.[296] The nerve fibers translate the vibrations into electrical impulses which travel to the auditory cortex.[297] The second sense of reception occurs within the auditory cortex. The auditory cortex itself perceives the spoken word.[298] A specific area within the auditory cortex, Wernicke's area, interprets the meaning of the word.[299] No two individuals have similar brain scaffolding: internal neural networks are dependent upon genetic makeup and experience.[300] Weather a person perceives information is dependent upon his or her ability to receive it, that is weather the neural network in the brain is adequately structured to handle the new information.

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[288] Gregory Riley, *One Jesus, Many Christs* (San Francisco: HarperSanFrancisco, 1997), 31-60.

[289] Albert-Laszlo Barabasi, *Linked: How Everything is Connected to Everything Else and What It Means for Business, Science, and Everyday Life* (New York: Plume, 2003), 4.

[290] Ibid.

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[291] Ibid., 16.

[292] Moody, 91-92.

[293] Ronald Kotualak, *Inside the Brain: Revolutionary Discoveries of How the Mind Works* (Kansas City, MO: Andrews McMeel, 1996), 27.

[294] Barabasi, 16.

[295] Kotulak, 27.

[296] Ibid.

[297] Ibid.

[298] Ibid.

[299] Ibid.

[300] Ibid., 4-5, 11, 17, 24-25, 54.

As was stated in Chapter Three under Neurological research, environmental factors, such as teaching and learning actually change the hardwiring in the brain.[301] The neural pathways in the brain are much more malleable than was originally thought.[302] With each new task or lesson learned the "hardwiring" in the brain actually changes.[303] While the number of axons remains the same, there is an increase of dendritic material and increase in the number of synaptic connections.[304] With an input of information there is an increase in neural pathways and synapses such that matter is re-organized and the electrical activity in the brain increases. Paul's planting the seed of the story of Christ in the mind of the recipients would cause actual physical changes in the hardwiring of the brain. He brings the word which gets converted into photonic activity in the brain; he brings light. It is in this sense that I disagree with the assessment that "no one can assign much importance to what Paul and Apollos did."[305]

Apollos watered. Based on Paul's comments in 2 Corinthians 10:14-16 and Romans 15:20, Paul felt his commission was to proclaim the message in places where it had not been preached before.[306] Apollos "directed the work of the established church, instructing and guiding its growth."[307] Watering promotes growth, without it the seed once planted may not grow. In Neurological studies, once new dendrite material has sprouted "like branches from a tree" states Kotulak, repetition or training is required to maintain this new growth.[308] Behavioral Therapy was developed before the science of Neurology had evidence that actual changes occur within the hardwiring in the brain brought by sense data.[309] In Behavioral Therapy, doing actually produces and strengthens physical changes within the brain. New neural pathways grow stronger with repetition. Not using information learned may result in a decline of the advancement once gained; an actual lose of dendrite material may ensue.[310] Apollos' reiterating Paul's teachings strengthens the connections in the brain and without his attentive care the new growth of the seed planted could wither. Apollos keeps the photonic activity flowing; he keeps the light shining through the neural pathways.

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[301] Ibid., 11, 17, 21-25, 54, 164.

[302] Ibid., 7-8, 22.

[303] Ibid., 17.

[304] Ibid., 14, 18.

[305] Orr and Walther, 171.

[306] Ibid.

The third element of the triad Paul mentions in v. 6 is that God gave the growth. Why does a seed sprout and grow? Why is there life at all? The growth of a seed requires fertile soil to provide nutrition, sunlight for energy, and atmospheric conditions which fall within the range of sustainable growth. Atomic energy from fusion reactions in the sun is converted to light. Through photosynthesis this electromagnetic energy is converted to chemical energy that the plant can use.[311] Together these constitute the energy, matter, and information which allow the plant to thrive. These elements are absorbed by the seed, energizing its activation to grow.

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[307] Ibid., 171.

[308] Kotulak, 9, 162-63. 166.

[309] Ibid., 9, 168-69.

[310] Ibid., 167.

[311] Posteltwaite and Hopson, 61.

Likewise, the individual as a constituent of creation requires an influx of energy, information, and matter to sustain itself and grow spiritually. This entire unit of Paul's, both the metaphor of milk and solid food in reference to his words spoken, and his tripartite anthropology, attest to spirituality as a growth process over time. As the plant grows upwards towards light, the individual grows towards God. God is the Spiritual Light of the world. The spiritual growth of the Corinthians is dependent upon Paul's words as the planting, Apollos' watering, and the energy which pulls one upwards, in this case, divine energy. Spirituality is defined by Schneiders as "the experience of conscious involvement in the project of life-integration through self-transcendence toward the ultimate value one perceives."[312] Like the sun for a plant, the Divine provides a focal point for Ultimate Value, a direction for development. It is in this sense, as an energy which draws one upwards, and an energy which enlivens all things, that God gave the growth. But the sun does more than provide a focal point, its energy penetrates and enlivens everything on the planet. In the analysis of Paul's metaphor of v. 6, a model of God emerges as not Theistic, but Panentheistic. As the sun gives life to all things on the planet, intimately penetrating all that exists with its life giving rays, so too a model of the Divine can be extended from Paul's agricultural metaphor that the Divine is life giving Source of all of Creation, the Light of the world. In 1 Corinthians 3, all three – Paul, Apollos, and God – promote the interconnection between the Spirit and matter which leads to transcendence of spirituality for the Corinthians.

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[312] S. Schneiders, *The Study of Christian Spirituality,* Studies in Spirituality Supplement 8 (Leuven: Peeters, 1998), 39-40.

Divine Interconnection through Prayer of the Elders to affect Healing: James 5:12-20

James 5:14 recommends calling for the elders to pray over one who is sick.[313] While miraculous healing is well attested in both the Hebrew Bible and the New Testament, spanning from Moses to Elisha to Jesus and his followers – all presented as agents of healing in connection with Divine power – there is a tendency in commentaries, and James 5 is no exception, towards silence on the topic of the efficacy of prayer for physical healing.[314] There is a tendency in commentaries on James to simply interpret the healing in terms of restoring emotional well-being or integration back into the community, rather than physical healing.[315] There is also a tendency in commentaries to emphasize the theological statement in 5:15 that "the Lord will raise you up" and to de-emphasize the role and actual effect the elders have as agents of physical healing.[316] *How* physical healing could possibly be facilitated through the elders is generally not a topic of analysis.

At issue is the idea of the mind/spirit affecting change upon matter. As David Ray Griffin relates in *Religion and Scientific Naturalism*, a three-way battle of cosmologies occurred in the seventeenth century with the concept of the mind/spirit effecting change upon matter as a primary issue.[317] The three models in the seventeenth century were the Aristotlian-Thomistic model, the Spiritualist tradition (stemming from Gnostic-Hermeticism, Neo-Platonism, and Mysticism), and the new Mechanistic model.[318] In the sixteenth century, Continental Rationalism struggled to explain how the soul/mind interacted with the body to convey motion. In classic Newtonian Mechanistic science, matter was defined as inert, motionless and powerless to affect change at a distance.[319] That the Mechanistic model was a choice among other models of matter within the rising field of classical Physics, such as energetic conceptions[320] put forth by Leibniz, Bernoulli, and Kant (in his pre-ether conception) has been well documented by P.M. Harmon in *Metaphysics and Natural Philosophy*.[321] Historically, the philosophical choice of matter as inert was adopted in part by some leading philosophers of the time such as Robert Boyle and Marin Mersenne because it could be used in support of the view of the Divine as transcendent rather than as immanent in nature.[322] As the Mechanistic model won out, leaving behind the Spiritualist traditions and energetic models of matter, it would be combined with Supernatural Theism by Christian proponents.[323] The Mechanistic model of matter set within a Supernatural Theistic framework reached its height in Calvinism rendering a dualistic cosmological model of the Divine above, distinct and separate from the mechanistic world of matter below.[324] In the Mechanistic-Supernatural Theistic model, miracles are due to the Transcendent Divine reaching out from above through the Holy Spirit, while the world of *matter* below *has no power* to affect miracles.

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[313] The term "James" will here refer to the letter, rather than its author.

[314] William Brosend, *James and Jude* (Cambridge: Cambridge University Press, 2004), 160-161; Patrick Hartin, *James,* Sacra Pagina Series, vol 14. (Collegeville, MN: Liturgical Press, 2003), 274-5; Douglas Moo, *The Letter of James* (Grand Rapids: Eerdmans , 2000), 245. R.V.G. Tasker, *The General Epistle of James: An Introduction and Commentary* (Grand Rapids: Eerdmans, 1957), 131. Tasker implies that the ability to physically heal through prayer was an ability for the Apostolic Age. Martin Albl, "'Are Any Among you Sick?' The Health Care System in the Letter of James," *Journal of Biblical Literature* 121, no.1 (2002): 123-43; Sophia Laws, *A Commentary on the Epistle of James* (San Francisco: Harper & Row, 1980) 229-242.

[315] Brosend, 161; Hartin, 274; Moo, 245; Laws 229-242.

[316] Brosend, 161; Hartin, 275; Tasker 131; Laws 234.

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[317] David Ray Griffin, *Religion and Scientific Naturalism: Overcoming the Conflicts,* SUNY Series in Constructive Postmodern Thought (Albany: State University of New York Press, 2000), 112.

[318] Griffin, 110-117.

[319] Griffin, 119.

[320] The term used at the time was "force" with "energy" gaining prominence after 1849 with Lord Kelvin, followed by Rankine's development of the term in 1853.

[321] P.M. Harman, *Metaphysics and Natural Philosophy: The Problem of Substance in Classical Physics* (Sussex: The Harvester Press, 1982).

[322] Griffin, 119.

[323] Griffin, 110-17.

It is no wonder then that the topic of *how* the elders affect healing upon matter (i.e. the body) is not addressed in commentaries on James 5. Instead, comments tend toward supernatural explanations or the healing is rendered in terms of emotional healing rather than physical healing. Specifically concerning James 5, D. Moo states that the relationship between faith and healing is "not causality but the will of God."[325] M. Albl equates the healing with integration back into the community for the one experiencing illness.[326] S. Laws, states that *James* certainly believes in the efficacy of prayer, without commentary on the elders' abilities.[327] Going further than most, Tamez states outright that "prayer strengthens our bodies."[328] The discussion which follows will be investigating *how* prayer might strengthen our bodies.

The view taken here will be that *the elders are an important part of the process in terms of human effort to affect healing in distinction from supernatural explanations.* The text states in v. 15b that "the Lord will raise up the sick" person, yet human effort is cited in v. 15a to facilitate a transformation from sickness to health. This human effort will be analyzed and investigated in terms of Contemporary Science in which matter is described as energetic, adaptable, and information rich,[329] rather than in terms of classical mechanistic science wherein matter is described as hard, non-energetic, and inert. A form critical analysis will first be applied.

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[324] Ibid.

[325] Moo, 245.

[326] Albl, 139.

[327] Sophie Laws, *A Commentary on The Epistle of James* (San Francisco: Harper & Row, 1980), 232-3.

[328] Elsa Tamez, *The Scandalous Message of James: Faith without Works is Dead* (New York: Crossroad, 1990), 71.

A Note on James and Paul in conversation: In addressing the Augustinian-Lutheran paradigm that James was anti-Pauline, Margaret Mitchell cites the work of Dennis MacDonald on the Pastoral Epistles and Christopher Mount on Acts whose studies display Paulinism in a broader perspective, "calling into question the simplistic formulation of the 'anti-Paulinism' of James."[330] The historical debate centers around what may be regarded as a false dichotomy set up between justification by faith and justification by works. Paul's theology is extremely active in contrast to that of the Deutero-Paulinists as he often cites his own discipleship as a model, and this discipleship includes actively proclaiming the gospel, enduring beatings, imprisonments, shipwrecks, hunger, thirst, etc. James advocates visiting the widows and orphans, and in the text of James 5, visiting and praying over the sick. The two are complementary on the issue that discipleship is not passive.

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[329] Ervin Laszlo, *The Systems View of the World: A Holistic Vision for Our Time* (Cresskill, NJ: Hampton Press, 1996). Stuart Kauffman, *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity* (Oxford: Oxford University Press, 1995).

[330] Margaret Mitchell "The Letter of James as a Document of Paulinism?" in *Reading James with New Eyes: Methodological Reassessments of the Letter of James,* eds. Robert Webb and John Kloppenborg (New York: T & T Clark International, 2007), 81. Mitchell takes the conversation further by showing literary dependence for James on the Pauline epistles.

The Text

12. But above all, my brothers and sisters, do not take oaths, neither by heaven, nor by earth, nor any other sort of oath. Rather, let your "yes" be "yes," and your "no," "no," so that you do not fall under judgment. 13. Is anyone among you suffering? Let that person pray. Is anyone feeling good? Let that person sing. 14. Is there anyone among you sick? Let that person call the elders of the church, and let them, after anointing him with oil in the name of the Lord, pray over the person. 15. And the prayer of faith will save the sick person, and the Lord will raise him up. And if the person has committed sins, he will be forgiven. 16. Therefore, confess sins to each other and pray for each other so that you may be healed. A righteous person's prayer is able to have a strong effect. 17. Elijah was a human like us in nature. Yet he prayed fervently for it not to rain. And it did not rain upon the earth for three years and six months. 18. And he prayed again, and the heaven gave rain. And the earth produced its fruit. 19. My brothers and sisters, if any among you wanders from the truth and someone turns him back, 20. let him know that the one who has turned back a sinner from his erring way will save that one's soul from death and will cover a multitude of sins.

Structure

Speech in the Assembly of Faith	5:12-20
I. Exhortation: Do not swear	12
II. Advice concerning alleviation of Suffering	13-18
A. Questions and Answers in terms of action to be taken	13-14
1. First Question and answer	13a-b
a. Question: Is any one among you suffering?	13a
b. Answer in terms of action to be taken: Let that person pray	13b
2. Second Question and answer	13c-d
a. Question: Is any cheerful?	13c

b. Answer in terms of action to be taken: Let that person sing.	13d
3. Third Question and answer	14
a. Question: Is any among you sick?	14a
b. Three part Answer in terms of action to be taken	14b-d
1) Action 1: Let him call for the elders of the church	14b
2) Action 2: let them pray over him	14c
3) Action 3: anoint him with oil in the name of the Lord	14d
B. Effect of Action	15-16a
1. For Physical sickness:	15a-b
a. Action and effect taken by people	15a
b. Action and effect taken by the Deity	15b
2. For Emotional sickness: If-then statement	15c-d
a. If one has committed sins	15c
b. (then) he will be forgiven	15d
3. Reiteration of action and affect	16a
C. Logic of Action Taken and Example offered	16b-18
1. Logic: The prayer of a righteous man has great power in its effects	16b
2. Example: Elijah	17-18
III. If – then statement concerning correcting one in error	19-20

L.T. Johnson has identified this unit as "Speech in the Assembly of Faith."[331] What he means by this is not "a speech" but rather how the faithful should direct their speaking. It is the final unit in an eight part division of the "letter" of James:

I. Greeting (1.1)
II. Epitome of Exhortation (1:2-27)
III. The Deeds of Faith (2:1-26)
IV. The Power and Peril of Speech (3:1.-12)
V. Call to Conversion (3:13-4:10)
VI. Examples of Arrogance (4:11-5:6)
VII. Patience in Time of Testing (5:7-11)
VIII. Speech in the Assembly of Faith (5:12-20)[332]

Some commentators find the content of 5:12 on oath taking as only marginally connected with what precedes or follows.[333] That 5:12 marks the beginning of a new unit is based on the presence of the formula *pro panton*, above all, which often signals a final series of statements in a letter.[334] Also, as Johnson indicates, the negative commandment, *me*, is found at the beginning of three other units in James (2:1; 3:1; 4:11).[335] And in terms of content, he points out this last section of 5:12-20 concerns positive modes of speech, while prior to this James had covered negative modes, particularly in 4.11 which condemned slander and 5:9 which condemned grumbling speech.[336] The restriction on oath taking is positive in that it advocates silence of speech.[337] The three sections of 5:12-20 concern restrictions on oath taking, instructions on praying for the sick, and advising another in the faith, while overall, the unit advocates positive modes of speech. The unit simply ends at the end of the "letter" without an epistolary conclusion.

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[331] Luke Johnson, *The Letter of James* (New York: Doubleday, 1964), xi.

[332] Ibid., xi.

[333] Ibid., 326.

In the main body of section 5:12-20, vv. 13-18, the primary topic is a practical guide of how to alleviate suffering, both physical and emotional (with the one exception of v.13c-d, that one who is cheerful, should sing, pointing back to the overall theme of the unit as indicated by Johnson of positive modes of speech). Wisdom on enduring suffering of trials was dispensed earlier in the letter with an answer in terms of the reward for this endurance (1:12-15). *How* to endure trials is discussed in 5:7-11 with an answer given in terms of patience. James' answer on how to alleviate suffering is not patience, but is a more active approach. *Proseuchesthai* dominates this section (5:14,16,17,18). The basic advice is to pray. First, if one is suffering, *kakopathein,* one prays for him or herself (5:14). Secondly, if one is sick, *asthenein,* one is not to pray for oneself as in Sirach 38.9, but instead to call for the elders and have them pray for him or her.

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[334] Ibid., 325.

[335] Ibid., 326.

[336] Ibid., 326.

[337] Ibidl, 326.

Asthenein indicates weakness, that perhaps the individual is simply unable to physically and mentally focus his or her energy in prayer would be the difference between the two actions to take. In such a case, the good advice offered by the writer is to call others to assist, and that the "weakness" of the one is countered by the implied strength of the many.

The elders are who James recommends to pray over the sick (v.14). Praying for another is well attested in the HB, rabbinic literature, and the NT (Gen. 20:7; 1 Sam. 12:23; Jer. 7:16; 44:3; Sir. 7:35; b. Bab.Bat 116a; b.Ber 34b; b. Sanh. 101a; Aboth de Rabbi Nathan 41; 1 QapGen 20:21-22; 2 Macc. 12:44; 1 Thess. 5:25; 2 Thess. 1:11; 3:1; Matt. 5:44; Col. 1:3,9; Heb. 13:18). An example of communal prayer occurs in Acts 12:5, wherein the church prayed for Peter when he was in prison. Calling upon the elders in particular to visit the sick is also well attested in rabbinic literature (b. Bab.Bat. 116a; b Hag. 3a; b. Ned. 41a). Both anointing and healing the sick is found in Mark 6:13.

Anointing with oil is recommended in James 5:14 and was a common medicinal practice for the time (Isa. 1:6; Josephus, Ant. 17.172; Philo *On Dreams* 2.58; 2 Enoch 22.8-9; Hippocrates, *Regimem* 2, 65; Pliny the Elder, *Natural History* 23.39-40; Celsus, *De Medicina* 2.14.4; Seneca *Ep.* 53.5; oil and wine in Luke 10:34). The name of the Lord is to be invoked in this healing, as in Acts 3:6; 4:10. While praying on behalf of another is common, the wording of praying "over," *ep' auton*, is unique to James.[338] The *act* of praying over is modeled by Jesus in the gospels, and the ability to heal was attested for the disciples (Mark 6:13), while the need for prayer and much faith on the part of the ones effecting the healing is attested in Matthew 17:14-21. James relates faith and prayer in v.15a. The ones who pray over the sick are to anoint with oil, invoke the name of the Lord, and then pray with faith. And it is this prayer that is said to save the sick.

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[338] Ibid., 332.

In v. 15 after James discusses the method for saving the sick, he states, "and the Lord will raise him up." This is the middle point of the chiastic structure, the climax.

A. (14a) if anyone is sick
  B. (14b-d) let them call for the elders to pray over him
    C. (15a) *for physical sickness*: And the prayer of faith will save the sick man,
      D. (15b) and the Lord will raise him up
    C' (15c-d) *for spiritual sickness*: and if he has committed sins, he will be forgiven.
  B' (16ab)Therefore, confess your sins to one another, and pray for one another
A' (16c) that you may be healed.

The structure supports the view that v.15b is a theological statement, while vv. 14-15a describe action to be taken by individuals for the purpose of affecting healing in others.[339] In v. 15c James moves immediately to "and if he has committed sins, he will be forgiven." Because his turn is immediate from the physical rejuvenation in v. 15a-b to the forgiveness of sins in v.15c-d the unstated connecting logical concept is the spiritual state. Form critically, James' intimate connection between physical and mental-emotional sickness (addressed on the closing side of the chiastic structure) reveals that for the writer the state of the body is deeply associated with the state of the soul, that the two are intertwined. The forgiveness of sins, of v. 15d, is said to be brought about by confessing one to another, another example of positive speech. While these healings, physical and spiritual, are stated in terms of the Lord raising one up, the deeds of the assembly, in particular the elders are the ones who are called into action in order to facilitate healing. And it is their words spoken, "the prayer of faith that will save the sick" (v.15a). The words of confession spoken and (one may assume empathetically) heard and received by the elders, are to be followed by more prayer (more words spoken) which will bring an anticipated change upon the soul.

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[339] While saving and raising bring to mind the concept of resurrection, the context supports the practical meaning that *egeiren* is a rising up from one's sick bed.

In the context of the letter, James has used *sozein* twice before. In 1:21, the *emphuton logon*, the "implanted word" is able to save souls and in 2:14 faith without deeds can not save. As Johnson notes these two notions are joined here.[340] For Johnson, the two notions are the deeds of the elders and the implanted word "as the name of the Lord spoken at the time of healing."[341] But James is linking more than this. The implanted word is not necessarily only the formula "in the name of the Lord," the context of 1:21 does not indicate this. James 1:22 states, "be doers of the word, and not hearers only." One cannot "do" "in the name of the Lord," at least not literally. The implanted word of 1:21 is the message or proclamation received, and not simply the formula "in the name of the Lord." In James 5:14 the message is the prayer spoken. In 5:14 it is the prayer of the elders which saves the sick. This is the implanted word. The word comes through the elders who have taken action. Their "deed" of faith is to come to the sick and offer prayer. It is in this sense they are "doers of the word," overlaying their faith with deeds and bringing good words of prayer in order to facilitate healing the sick.

In 1 Corinthians 3:1-9, Paul had used the metaphor of "planting" for his proclamation, a proclamation which was able to turn the soul-ish person (*psychikos*) into a spiritual person (*pneumatikos*) over time and with nourishment. This similar sense of the efficacy of words spoken is in James. In James, one is called to act on the message received, the word implanted, and as links in a chain, to then bring or implant good words to the sick. As in Paul, there is the concept expressed that words can affect change, in this case, the text states that the words have the power to heal the sick, and in effect "save" the sick. In the last two verses of the unit, James expresses the view that words are so powerful they can save souls.

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[340] Ibid.

[341] Ibid., 332.

James calls for the elders, *presbyteros* of the *ekklesia* to be the instruments of healing. In R. Alastair Campbell's study of elders in the context of ancient Jewish and Greco-Roman societies "the elders are those who have a title of honor rooted in the ancient family or household. The elders play the distinct, if relatively informal role of the elders in a household."[342] These are the older, respected members of a household. In 1 Corinthians 3, Paul had contrasted the babes in Christ (*nepiois*; also called *sarkinois,* those oriented towards fleshly concerns) as ones who lacked wisdom, display jealousy and strife, and he equated maturity with the *pneumatikois* who were capable of receiving wisdom and acting out of love. Here in James, the "older ones" in the *ekklesia* are to take on the advanced responsibility of "doing" on behalf of others.

James' discussion then indicates that it is righteousness that the elders possess and this is a source of power. He states, "the prayer of a righteous man has great power in its effects" (v.16). He implies that the elders are righteous, as was Elijah. In v. 17 James offers the example of Elijah and the power of his prayer. Elijah was called father by Elisha as the elder in the faith. Three terms are used here for persons advanced in faith: *Presbyteros*, or older ones by James, spirituals (*pneumatikois*) as the highest of three levels (*sarkinois, psuchikois, pneumatikois)* by Paul, and father by Elisha in the Dueteronomistic History. As spiritually advanced persons, James associates these older members of the faith with possessing power to bring change on matter: he gives an example of Elijah as one who is advanced in the faith and righteous, affecting change on matter/nature. This same kind of power is associated with the elders to affect healing ("Elijah was a human like us in nature" v.17a). Because spirit has traditionally been associated with power in multiple biblical texts, these elders would theoretically possess more spiritual power than the young neophytes. The nature of this power will be discussed below.

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[342] R. Alastair Campbell, *The Elders: Seniority within Earliest Christianity,* Studies of the New Testament and its World (Edingburgh: T & T Clark, 1994), 246.

Genre

As can be seen by the structure, this "letter" lacks an epistolary conclusion and there is no specific occasion for the letter as in Paul's undisputed letters, no thanksgiving, no personal greetings. It is instead a collection of pieces of good advice or wisdom to those of the Christian faith, (Johnson), or Christian wisdom literature (Laws).[343] It is a letter in form only and instead is a "carefully crafted composition" of "moral/exhortatory literature" similar to contemporary writings in Jewish literature and the Greco-Roman world of a paranetic character, such as the writings of Philo, the letter of Arestas, and the Stoic writings of Seneca.[344] James' distinction within Greco-Roman and Jewish moral literature is that his voice is "egalitarian, not authoritarian"; he promotes a community in service.[345] There are many similarities with the sayings of Jesus and is similar in genre to 1 Peter, 1 Clement, and the Shepherd of Hermas.

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[343] Sophia Laws, "Introduction to James" in HarperCollins Study Bible.

[344] Johnson, 80-1.

The logic of rhetoric is employed which allows James to cover a multitude of topics quickly. Elements of the diatribe found in James should also be noted. He addresses the reader directly (1:2,16, 19; 2:1, 5,14; 3:1,10,12; 5:12,19), short questions are immediately answered (3:13; 4:14; 5:13-4) and rhetorical questions asked (2:4,5,6,7,14,16,20; 3:11,12; 4:1,4,5; 5:6), there is frequent use of comparisons (1:6, 10-11,23; 2:26; 3:3,5-7, 11,12; 4:14; 5:2,3,7,18), and he makes use of exemplary figures of the past (2:21-25; 5:10-11, 17-18).

Setting

Since Origen, tradition has attributed this writing to James, the brother of Jesus.[346] The author however does not claim to be this James. Johnson concludes that all one can say is that the writer is a Jewish Christian.[347] The address is to "the twelve tribes in the Dispersion," and referred to in the body of the letter as "my brothers" (1:2,16; 2:1,14; 5:19). It appears to be intended as a circular letter to a broader readership than to one local community.[348] "James addresses not an extended *oikos*, household, but rather an *ekklesia*."[349] Following Deissmann's thesis that the earliest Christian writings were "real letters" such as Paul's writings, and the writing of James is more "literary" in character,

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[345] Ibid., 82.

[346] Origen *Commentarium in Epistulam ad Romanos* 4.8.

[347] Johnson, 114.

[348] Ibid., 24.

[349] Ibid., 81.

Johnson situates the writing of James as "not part of the first creative stage" of the Christian movement, but in a later period.[350] Palestinian in origin due to its address, and written in Greek, it was accepted as canonical first in Alexandria, Egypt in the third century, before it was accepted in the West.[351]

Intention

The intention is the dispensing of Wisdom for the greater good of the community, in particular concerning positive modes of speech in contrast to negative modes discussed earlier in the letter. 5:12 concerns restrictions on oath taking, 5:13-18 concerns instructions on praying for the sick, and 5:19-20 concerns advising another in the faith. The primary section of vv. 13-18 offers the wisdom of how to facilitate healing, it is to be accomplished through the elders anointing with oil in the name of the Lord and praying over one who is ill. This is the positive speech that the elders should actively pursue. For Moody, this ministry, based on the example of healing set by Jesus, was once a normal ministry of the Apostolic Age.[352] He states that in our times, the team of faith and science is too seldom seen.[353]

An Application of Contemporary Science to James 5:12-20

James does not broach the subject of *matter* itself, but does employ many positive metaphors from nature (1:11; 3:7,11,12; 5:4-5, 12). God is literally the Father of photon, the Father of Light, *tou patros ton photon* (1:17). A similar view is found in 1Timothy and 1 John. In 1Timothy, it is said that God dwells in unapproachable light (1 Tim 6:16) and in 1 John 1:5 God is light, *o theos phos estin.* James' view expressed here is nuanced differently than either of these views. It is not that God dwells in or that God is light, but that light comes from God, reminiscent of Genesis 1. This nuance is seen in the context itself: Verse 17a reads, "Every good endowment and every perfect gift is from above, coming down from the Father *of* Light with whom there is no variation or shadow due to change." While v. 17b does reflect a similar view to both 1 Tim 6:16 and 1 John 1:5, James' view draws an allusion to Genesis 1 in which light was the first creation and then "good" things followed.

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[350] Ibid., 23.

[351] Ibid.

[352] Dale Moody, *Spirit of the Living God* (Nashville: Broadman Press, 1976), 95.

[353] Ibid.

The central portion of this unit concerns healing as the "good" thing which comes from *tou patros ton photon.* And while the text states that "the Lord will raise" up the sick person, it advocates that the elders, the older, more spiritually advanced individuals of the faith community come together to anoint with oil in the name of the Lord and pray over the sick to effect this healing. The elders as spiritually advanced are the ones who have received "the implanted word" (1:21) and they are to be "doers of the word" (1:22). They have received more spiritual education and acted on this spiritual education.

Contemporary neurological studies reveal that there is an advancement in the brain scaffolding which is dependent upon the education one receives throughout ones lifetime, while the lack of education and stimulus retards mental development.[354] The more education one receives, in this case, spiritual education, the more neural networks are developed.[355] The more neural networks there are leads to greater consciousness, theoretically greater wisdom.[356] According to Behavioral Theory combined with new neurological insights, *doing* also strengthens neural pathways, such that habits develop over time where once effort was required.[357] With increased education and by doing, more dendrites sprout in the brain increasing the scaffolding of neural networks. Inside the dendrites are microtubules, the conveyers of photons in the brain. These are literally the light carriers for information processing in the brain.[358] The elders, the spiritually advanced, would theoretically have received more spiritual education and devoted more time to action in service, and therefore would have more advanced dendrite scaffolding; they would have more light activity in the brain. As James describes God as the Father of Light, the elders as spiritually advanced representatives of God in Christ have become carriers of the Light of God-knowledge. That James calls for elders in the plural, translates simply to more Light.

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[354] Ronald Kotulak, *Inside the Brain: Revolutionary Discoveries of How the Mind Works* (Kansas City: Andrews McMeel, 1996) 17, 21.

Medical researchers Bruce Lipton in *Biology of Belief: Unleashing the Power of Consciousness, Matter, and Miracles* and Larry Dossey in *Be Carefull What You Pray For* provide the data of many experiments which attest to the positive, healing effects of prayers on microorganisms to humans.[359] Lipton's research on cells also shows how negative words cause stress, which in turn causes cells to shut down into protective mode.[360] Dossey's research shows how negative thoughts retard growth in microorganisms.[361] These works reveal that negative words (and thoughts) upon matter, whether cells or microorganisms, cause harm while good words (and thoughts) cause stronger structural form and health. Words cause affects, this is what the research reveals.[362]

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[355] Kotulak, 17, 21.

[356] Mark Buchanan, *Nexus: Small Worlds and the Groundbreaking Theory of Networks* (New York: W.W. Norton, 2002) 66-7.

[357] Ibid.

[358] Lynne McTaggert. *The Field: The Quest for the Secret Force of the Universe* (New York: Harper Collins, 2002) 92-4.

[359] Bruce Lipton, *The Biology of Belief* (Santa Rosa: Elite Books, 2005). Larry Dossey, *Be Careful What You Pray For...You Just Might Get It* (San Francisco: HarperSanFrancisco, 1998).

A conceptual theory is provided by Masaru Emoto to explain how words could affect matter. For Emoto, it is information itself which is being copied onto matter; the complex form of the spoken word is transferred onto the form of matter.[363] Information is defined by Systems Theorist Ervin Laszlo as encoded patterns of energy.[364] The electromagnetic information of words and thoughts are carried over onto physical matter. For any thought processes in the brain to occur, which would include praying, electrochemical activity within the brain itself is required.[365] Light is traveling through the microtubules in this process. For the spoken word, sound waves carry this encoded information to the recipient. There is directed energy and information from the one praying to the recipient. The research of Lipton, Dossey, and Emoto reveals that speaking over matter changes matter. The elders, theoretically as agents with advanced brain scaffolding, are indeed important for the healing of the sick in James 5:14. As powerful Light carriers they provide the good words directed to and converted to electromagnetic information onto the body/brain/soul of the recipient.

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[360] Lipton, 147-150; 164-6.

[361] Dossey, 167-170.

[362] Thoughts are things in that light processing in the brain is required.

[363] Emoto's research on water molecules shows how praying over water changes frozen crystals of water from ill-shaped crystalline structures to beautifully well-formed structures. The inspiration for his research on water came from an article published in *Nature* by French scientist Jacques Benveniste in 1988 whose work showed that medicine diluted with water to the point that the medicine was no longer detectable still produced the same effect on patients as the undiluted medicine. Masaru Emoto. *The Hidden Message in Water,* trans. David Thayne (New York: Atria Books, 2001) xviii-x.

[364] Ervin Laszlo, *A Systems View of the World: A Holistic Vision for Our Time,* Advances in Systems Theory, Complexity, and the Human Sciences (Cresskill, NJ: Hampton Press, 1996), 63.

[365] Kotulak, 14.

Re-creation of Receivers through Christ as Logos and Light: John 1:1-18

In the previous texts, human effort was described as effecting spiritual transformation of the individual, from fleshly and psychic to spiritual, and from sickness to health. In John 1, Jesus is cited as the source and cause for transformation. While Jesus is presented as more than human, particularly in the Prologue, in contrast to the human efforts in the two previous passages, how he affects transformation will be investigated. Commentaries tend to describe transformation of the individual, the interconnection of the Spirit upon matter, in terms of "an act of God." Commenting on vv. 12-13, Haenchen states that "how people become children of God, is through an act of God, [366] or Sanders, "a direct intervention of God,"[367] Lightfoot, "a gift of God,"[368] Bruce, "faith in the name of Jesus and in the testimony about him,"[369] and Witherington, "his resurrected status (as god)."[370] The transformation of individuals into children of God will be explicated in terms of interaction with Jesus as enlightened human being, figuratively and literally, Light-bearer.

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[366] Ernest Haenchen, *John 1: A Commentary on the Gospel of John, Chapters 1-6,* trans. Robert Funk (Philadelphia: Fortress Press, 1984).

[367] J. N. Sanders, *A Commentary on the Gospel According to John* (New York: Harper & Row, 1968), 78.

[368] R. H. Lightfoot, *St. John's Gospel: A Commentary* (Oxford: Clarendon Press, 1956), 83.

[369] F. F. Bruce, *The Gospel of John: Introduction, Exposition, and Notes* (Grand Rapids: Eerdmans, 1983), 39.

[370] Ben Witherington, *John's Wisdom: A Commentary on the Fourth Gospel* (Louisville: Westminster John Knox Press, 1995), 57; George MacRae, *Invitation to John: A Commentary on the Gospel of John with Complete Text from the Jerusalem Bible* (Garden City, NY: Image Books, 1978), 220.

Text

1. In the beginning was the Word/*Logos,* and the Word/*Logos* was with God, and the Word/*Logos* was God. 2. He was with God in the beginning. 3. Through him all things came into being, and without him nothing came to be. 4. In him was life, and the life was the light of humankind. 5. And the light shines in the darkness, and the darkness has not overtaken it. 6. There was a man sent by God, whose name was John. 7. He came for testimony, in order to testify concerning the light, in order that all might believe through him. 8. He himself was not the light, but came in order to testify to the light. 9. The true light which enlightens everyone was coming into the world. 10. He was in the world, and the world was made, yet the world did not know him. 11. He came to his own, yet his own people did not receive him. 12. But to all those who did receive him, he gave to them power to become children of God. That is, those who believe in his name, 13. those who were born not of blood, nor of carnal desire, nor of the desire of man, but by God. 14. And the Word became flesh and dwelt among us. And we have seen his glory, the glory of a *monogenous** coming from the Father, full of grace and truth. 15. John testified concerning him and cried out saying: "This was the one of whom I said, 'The one who comes after me ranks ahead of me, for he existed before me.'" 16. And from his fullness have we all received grace upon grace. 17. For the law was a gift through Moses; grace and truth were given through Jesus Christ. 18. No one has ever seen God, the *monogenes** god who is in the pocket of the Father, he has made him known.

Structure

I. Four Strophes

A. Strophe One: Word, God, Creation

v. 1. In the beginning was the Word;
the Word was with God,
and the Word was God.
v. 2. He was with God in the beginning.
v. 3. Through him all things came into being,
and without him nothing came to be,

B. Strophe Two: Life, Light, Enlightenment

v. 4. In him was life,
and the life was the light of humankind.
v. 5. And the light shines in the darkness,
and the darkness has not overtaken it.
v. 9. The true light which enlightens every one
was coming into the world.

C. Strophe Three: Unrecognized, Un-received, Received,

v. 10. He was in the world, and the world was made through him,
yet the world did not know him.
v. 11. He came to his own, yet his own people did not receive him.
v. 12. But to all those who did receive him,
he gave to them power to become children of God.
v. 13. those who were born not of blood, nor of carnal desire,
nor of the of the desire of man, but by God.

D. Strophe Four: Word is fullness of glory, grace received, to those who recognize God

v. 14. And the Word became flesh and dwelt among us.
And we have seen his glory,
the glory of a *monogenous** coming from the Father,
full of grace and truth.
v. 16. And from his fullness have we all received
grace upon grace.
v. 18. No one has ever seen God,
the *monogenes** god who is in the pocket of the Father,
he has made him known.

II. Four Insertions:

A. . First Insertion: vv. 6-8 John the Baptist

6. There was a man sent by God, whose name was John.
7. He came for testimony, in order to testify concerning the light, in order that all might believe through him.
8. He himself was not the light, but came in order to testify to the light.

B. Second Insertion: v.12c formulaic insertion

12c. That is, those who believe in his name –

C. Third Insertion: v.15 Jesus in contrast to John the Baptist

15. John testified concerning him and cried out saying: "This was the one of whom I said, 'The one who comes after me ranks ahead of me, for he existed before me.'"

D. Fourth Insertion: v. 17 Jesus in contrast to Moses

17. For the law was a gift through Moses; grace and truth were given through Jesus Christ.

This unit of John 1:1-18 forms the introduction to the gospel of John. It has traditionally been described as a prologue, an introductory preface to the gospel, an overture.[371] Form critically it has been regarded as a hymn based on the poetic quality of the lines concerning length, number of accents, and co-ordination.[372] Precedents for hymns in the New Testament include Phil 2.6-11 and Col 1.5-20.[373] While the number of strophes is generally agreed upon as four, there is disagreement as to exact divisions and which verses constitute insertions.[374] There is some general agreement that vv. 6-8, 13, and 15 are insertions (Bernard, Bultmann, De Ausejo, Gaechter, Green, Haenchen, Kasemann,

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[371] Raymond Brown, *The Gospel According to John,* Vol. 1, Anchor Bible, v. 29 (Garden City, N.Y.: Doubleday, 1966), 18. Rudolph Bultmann identified the hymn as an overture.

[372] Brown, 21.

[373] There is also the short hymn of 1 Timothy 3:16.

[374] Brown, 22.

Schnackenburg).[375] I have included verse 13 as part of the original hymn based on line length, cadence, and content. Its content is Gnostic, fitting with the Gnostic characteristics in the hymn in general. While many commentators dismiss the Gnostic elements, Bultmann has identified the hymn as Gnostic due to the elements of a heavenly redeemer figure, his association with the *pleroma*, and the dualism between light and darkness.[376] The second unit in the gospel of John begins with v. 19 and the formal testimony of John the Baptist comprising a unit of vv. 19-34. This is followed by a unit on the call of the first disciples of Jesus (1:35-43). John 2 begins the earlier signs source which forms the framework structure of the gospel by a different author.[377] Linguistic and stylistic differences between the Prologue and the signs source make it reasonably certain that the author chose a hymn, "originally independent, as the way to introduce the Gospel."[378]

The structure of the Prologue presented above consists of four strophes, with four insertions. Strophe I presents the Word/*Logos* with God before Creation and Creation dependent upon this union. Haenchen observes that there is throughout each strophe a pattern of a-b; b-c; c-d.[379] In Strophe I, the beginning (of creation) is linked to the Word/*Logos*. The Word is linked with God. Then God and Word are equated, and finally, God is linked with creation of world. Strophe II presents the Word/*Logos* as

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[375] Brown, 3ff, 22.

[376] For Bultmann it is a Gnostic hymn written in praise of John the Baptist. Haenchen, 21. MacRae is in agreement with the hymn being Gnostic. George MacRae. *Invitation to John: A Commentary on the Gospel of John with Complete Text from the Jerusalem Bible* (Garden City, NY: Image Books, 1978), 220.

[377] Haenchen, 77. In agreement with Bultmann, Kasemann, and Schnackenburg.

[378] Haenchen, 77.

[379] Ibid., 110.

Life and Light, with this light presented in terms of enlightenment in humankind. The *Logos* is linked with Life, then Life to Light. The Light is not overtaken by Darkness, Light is coming into the world. In Strophe III, vv. 10-11 the link between concepts is in terms of a negation. The world does not recognize the *Logos*, ironically, even though the world was made through the *Logos*, even his own people do not receive him. The first two verses of Strophe III are linked to the last two verses of the Strophe through the concept of reception. In verses 11-12, those who receive the *Logos* (element A), are given power (B) to become new creations (C) by God (D). Strophe IV presents the idea that perceiving the *Logos* (A) as the one who reflects the glory of God (B), as fullness of grace and truth (C), allows one to comprehend God (D). Each strophe has four elements each intimately linked with the preceding element in a chain-like structure. Concepts emanate from what precedes, they spiral outwards. There is also an inclusio in that the final concept of the Logos, as facilitating comprehension of God, brings the reader full circle back to the beginning concept of the Word with God.

The *Logos* relates those who recognize the *Logos* back to God. This is similar to Philo's logic, in that those who are able to recognize the *Logos* in Nature achieve a closer connection to the Divine. Instead of the connection between the Divine and individuals being the *Logos* in Nature, the gospel of John identifies this connective element as a person - Jesus as the *Logos.* All relationships spiral out from God to the *Logos* to the people, back to God. Once again the form of the literature is a key to the message. In nature, forms spiral outwards from a seed as in the development of leaves. In botany this movement happens to be called a "strophe." The form of this literary work of John 1 is an unfolding of the creation issuing forth from the *kolpon* "of the Father" to the *monogenes* god, *theos*, who empowers the re-creation of those who "receive."

The hymn starts with "in the beginning' as in the first words of Genesis, and exactly as that found in the LXX of Genesis 1:1, *en arche*. But the hymn of John 1 does not begin with God. Verse 2 posits the *Logos* in the beginning, then states, "with God." According to Haenchen, for the writer "there is something in time primeval; astonishingly it is not 'God.'"[380] Haenchen compares the introductions of the Synoptics with the gospel of John. Mark begins with the description of John the Baptist, then presents the station of Jesus by the manifestation of miracles, the confessions of the demons, and the transfiguration, quite apart from the resurrection.[381] Matthew and Luke precede this with the miraculous birth of Jesus. So the fourth gospel makes a "super leap" from this trajectory starting its account in the time before creation, in eternity.[382] While the concept is a leap from the earlier gospels, similar leaps were made in Buddhism and Taoism, as Buddha and LaoTzu were later described by their respective traditions as cosmic in Nature. In later Jewish tradition, Elijah too obtained cosmic significance as he became heavenly judge.

Concerning the conceptual gap between the gospels, for Haenchen this particular move of placing Christ "in the beginning" was made by the hymnist solely on antecedents from biblical wisdom literature which he calls "an older wisdom myth."[383] According to this myth, known in various forms in late Judaism, and particularly found in

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[380] Ibid., 109.

[381] Ibid., 101.

[382] Ibid.

[383] Ibid.

Enoch 42:1ff and Sirach 24:2-24, and also for Haenchen is found in 1 Corinthians 1:21f, the world was created by divine Wisdom.[384] Wisdom was at the side of God from the beginning, and when God began to create, Wisdom served as "supervising architect."[385] But no one wants to take wisdom's advice, says Haenchen.[386] So Wisdom has to wander always further since no one wants to accept her. Wisdom returns to heaven. He cites 1 Corinthians 1:21f which for him shows that "Christians told this story."[387] He states that the hymnist had only to substitute the masculine *Logos* for the feminine Wisdom in order to create a coherent poem.[388] However, Paul's use of wisdom in 1 Corinthians 1:21 is not personified wisdom, but closer to the philosophic, non-mythical concept of the *Logos* as in Heraclitus and the Stoics. Haenchen dismisses precedents from Heraclitus to Philo because Philo's conceptions are not exactly the same, specifically Philo does not regard the *Logos* as God, *o theos*, but merely divine, *theos*.[389] Because of this, he sees no Hellenistic ideas present.

If one moves merely from the concept of personified wisdom in Jewish wisdom literature to the *Logos* of John 1, important philosophical concepts are missed. One of the earliest ideas in the bible is in Genesis 1, which describes the word and light as the first creation. From Greek tradition, as described above in Chapter One, for Heraclitus the *Logos*/Reason existed from the beginning and was identified with the creation of the forms of Nature. Both Heraclitus and the Johannine community are from Ephesus. In Stoicism, the world begins as Deity, as a fiery, gaseous or vaporous state and develops outward into its forms.[390] The divine Fire is imbued with *logoi spermatikoi* from the beginning becoming matter and giving matter its form.[391] In Plato's *Timaeus*, the demiurge was an intermediate deity between the Eternal Forms and creation, while in Philo's philosophy the *Logos* precedes creation, replacing and demythologizing the concept of the demiurge. In Gnosticism, a divine redeemer figure as first emanation brings wisdom to awaken the people. For the writer of the prologue, the *Logos* is with God, then comes down, and reflects God's glory. It is this radiant essence as light and truth which attract the people and bring them into relation with God, as the *Logos* has always served as a bridge to the Divine. This is the writer's answer which is based on not only Jewish, but also Greek philosophic and Gnostic developments, forming a smooth transition and inclusive of more elements in common than that of simply personified wisdom.

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[384] Ibid., 101, 125.

[385] Ibid., 101.

[386] Ibid.

[387] Ibid.

[388] Ibid., 102.

[389] Haenchen quotes Philo's *On Dreams* 1.229f. Haenchen, 109.

Verse 3 states, "through him all things came into being." Heraclitus and Philo's concept of the *Logos* was that through the *Logos* all things came into being. The writer has equated Jesus with divine Reason which previously in philosophic thought had brought all things into being. Brown notes that John 15:5 draws a similar relationship between Jesus and the Christian, in that through this relationship new things come into being. "I am the vine and you are the branches. He who abides in me, and I in him, he it is that bears much fruit, for apart from me you can do nothing." How Christ as *Logos* brings about new creations will be discussed below in terms of contemporary science. Brown cites a similar theology of John 1:3 to the hymn in Colossians: "For in him all things were created" (Col 1:16).[392] The hymn in the Deutero-Pauline writing of Colossians represents an even higher Christology than the hymn of John 1 in that the first is "through" him *(di)* while the second is "in" (*en*).

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[390] Ibid., 156-8.

[391] Ibid,, 135, 139, 158, 161, 172.

In Strophe II, the writer of John relates "the all things made" of creation specifically with life. It goes on to describe this new life as light. The *Logos*/Word brings enlightenment, *photizei,* (v.9) through Light, *phos* (v.4). The new life is enlightenment. Jesus brings renewal of the spirit as light bearer. In Gnostic thought the Redeemer is specifically described as a light bearer.[393] For the writer of the Prologue to the gospel of John, Jesus as Word brings light, *phos*, leading to enlightenment transforming the individual. Also in the Second Strophe, the concept of a conflict between light and darkness is brought out. In Zoroastrian thought this is the purpose of the creation of the world to offer a battleground for the primeval condition of light and dark. In later Manichean cosmology, the kingdom of darkness is an encroaching threat to the light. While in Gnosticism in general a redeemer figure from the Light realm and full of light comes down to call and awaken the people back from their darkness to the realm of light. In Strophe II, the light-bearer brings light to transform the people into light carriers to find their way out of the darkness. This light-filled life is the new life.

In Strophe III, it is related that while some do not recognize Jesus as the *Logos* (as *Logos* is explained in Strophe II) for those who do recognize this, they become children of God. Salvation is linked with the ability to perceive. The similar idea of relating the faculty of perception and salvation occurs earlier in the writings of Paul. For Paul, the mind of unbelievers has been blinded which prevents them from seeing the light of the gospel of the glory of Christ (2 Cor. 4:4). This ability to perceive and then to be transformed is for Haenchen "an act of God."[394] The text states however that transformation into sons and daughters of God is dependent upon the very human ability of perception, of being able to receive the Word.

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[392] Brown, 25.

[393] Rudolph. 133, 336.

Haenchen does ask the important question "what does 'receive' mean"?[395] And states, Enligtenment, *photizei* must mean the proffering of the knowledge of salvation, as does shines earlier in v. 5. He then states, that this term "receive" can only have the sense of believe, for it goes with what immediately follows in v. 12b "he gave power to become children of God." But this, he reasons "would be more than those who believe in his name" (a community formulation that is used also in 2:23 and 3:18 and in 1 John 3:23 and 5:13) "But the gospel of John provides no suggestion of a grade of Christian beyond that of the simple believer. That means these expressions seem to have been piled up without their having been thought through."[396]

The gospel of John does however offer two ranks of initial believers. The first group comes to belief through the witnessing and testifying of miracles, and the second, a higher rank, recognizes and perceives the truth of Christ's word, the *logos*. While Paul offers specific grades of spiritual existence, as in the fleshly to soul-ish to spiritual status discussed above in 2 Corinthians 3, the prologue identifies a process of growth from initial state of reception. This is indicated in the use of the aorist for "received" and "believed" in contrast to the future tense "to become" *genesthai,* children of God in v.12. The difference in tenses conveys a process through time. The power of transformation over time through the *Logos* was expressed by Jewish and Greek philosophers as outlined in Chapter Two above, in particular in Philo's work and the chain saying of rabbi Pinchas ben Yair.[397] In disagreement with Haenchen, the writer has thought through his expressions. The prologue provides very clearly in Greek that there is a process to enlightenment and this process is through the reception of the *Logos* as word of truth which leads to becoming children of God. The writer goes on further to say that this enlightenment comes through the "power" of light, *phos* of the Light bearer. This is the means of transformation, it is the "power" to change. This change is not an interventionist "act of God," but rather according to the writer, a process over time as the receiver perceives the *Logos* as light which causes enlightenment, the faculty identified for the children of God.

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[394] Haenchen, 118.

[395] Ibid., 117.

[396] Ibid., 118.

For John, Jesus is equated with the *Logos*/Word/Reason. The words he speaks come from his person, as a human being (the word became flesh, v.14). As an individual situated in a specific cultural environment, he is a developmental product of his life experiences. These experiences would include his rich Jewish heritage, the Greco-Roman culture of his environment, his parental influences, and the countless other experiences of his personal life, social interactions and spiritual education creating the unique individual of Jesus of Nazareth. This person, this Jesus conveys his thoughts through words to individuals, to the receivers, as a product of his life journey of enlightenment and passes on his enlightenment.

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[397] While both Philo and the rabbi identify law as providing the power for change, the similar concept is that words in general provide power for change over time.

Stophe III, v.12 expresses the importance of being able to receive the word. The individuals, in order to receive, must have a level of spiritual education or experiences to at least understand the concepts spoken. For example, one generally cannot grasp calculus without first comprehending algebra, while algebra requires first competency in general math. There also must be a willingness and openness to learning something new. The writer speaks of both a lack of *gnosis* of *logos* and an unwillingness to receive (vv.10-11). To be receivers there must be both knowledge of the *logos* and openness, then one is able to receive the light. At its most basic, the words of Jesus are light and enlightenment. Words travel as sound waves to those hearing the message. As the waves of energy travel through the ear, they are converted into electronic pulses of light to be received by the cortex. This electromagnetic energy carries the encoded message of the Word spoken. Light is literally taken in to the receiver and there is enlightenment.

In v. 5, the light of enlightenment is described as shining. Haenchen regards the difference in tenses in v. 5 as "a puzzle."[398] In v. 5 "shines," *phainei,* is in the present tense, which is followed by the aorist, *katelaben,* "has not overtaken."[399] The light shines in the darkness, implies for Haenchen a long duration of time, yet the Church traditionally interprets v. 5 as the incarnation of the *Logos,* an event which has happened in the past.[400] Regarding the present tense of light that "shines in the darkness" the concept of Christ as Force field has been applied by Process theologians. In Process Thought, every event produces a "force" and is described by Whitehead as "the energy of physical production."[401] In *Process Theology*: *an Introductory Exposition*, Cobb and Griffin describe the "work" of Jesus in terms of a "field of force."[402]

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[398] Ibid., 115.

[399] Ibid.

[400] Ibid., 115, 118.

> The idea of a field of force is not a mysterious one from Whitehead's point of view. Every event pervades its future. Of course, the effect of most of these events, including human ones, in the future they pervade is negligible. But there are important events as well, whose field of force is not negligible. The life of Jesus was an important event, and its repeated reenactment and remembrance has strengthened its field of force."[403]

A field of force is a radiant energetic power and coincides with the writer's use of "shines," literally meaning to emit rays of light in a continuous stream. Building on Haenchen's concept of "duration in time" and Process theology's concept of the effect of Jesus as a field of force, the use of *phainei* in the present tense, may be aptly expressed in contemporary language as a field of force which endures and is strengthened in duration. The "has not overtaken" in the aorist implies that the force field has not been cancelled out by another force.

Strophe IV summarizes what the writer has said in the first three strophes and equates the *Logos* to God.

. v. 14. And the Word became flesh and dwelt among us.
And we have seen his glory,
the glory of the *monogenous** coming from the Father,
full of grace and truth.
v. 16. And from his fullness have we all received,
grace upon grace.

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[401] Alfred North Whitehead. *Process and Reality*, ed. David Griffin and Donald Sherburne (New York: Free Press, 1978), 356.

[402] John Cobb and David Griffin, *Process Theology: An Introductory Exposition* (Philadelphia: Westminster Press, 1976), 103.

[403] Cobb and Griffin, 103.

v. 18. No one has ever seen God,
the *monogenes** god who is in the pocket of the Father,
he has made him known.

In v. 14, it is said that the *Logos* became flesh and dwelt among us. The word "dwelt" is *skenoun*, "make a dwelling; pitch a tent" or "tented." The idea of the Divine tenting is found in Exodus 25:8-9; Joel 3:17; Zechariah 2:10; Ezekiel 43:7.[404] Each reference speaks of the dwelling place of the Divine either in the tabernacle, the first temple, or the second temple. The gospel of John is dated to after the destruction of the Second Temple in 70 C.E., and describes the *Logos* as dwelling among us. For Brown, according to John 2:19-22, Jesus "now serves as the Tabernacle."[405]

The concept of light has been used in vv. 4,5,7,8 and 9 and now in v. 14 as glory. Glory is associated in v. 14 with "seeing" the "*monogenous" theos*. Glory, Heb. *kabod*, Gr. *doxa,* is often found in association with God's presence, often employed as a description of "the visible presence of God."[406] Glory is also associated with heavenly beings, or angels.[407] The concept of Glory is also often been employed as a connecting link between humans and the Divine.[408] For some writers of the Hebrew bible and New Testament, the glory of God is also evidenced in Nature.[409] The glory of God may also be associated with the heavenly bodies,[410] or above the heavens.[411] Glory is not limited to the divine but also has been associated with humans in general,[412] and specifically, the glory of Solomon and Moses.[413] In comparing the association of glory in John 1 with the *Logos*, scholars will point out the association of Jesus and glory in the transfiguration.[414] In the transfiguration scene, Brown emphasizes that they "saw" his glory as glory is often associated with the visible presence of the glory of God in the Hebrew Bible and Targum, particularly in reference to the temple.[415]

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[404] The LXX for Ezekiel 43:7 includes the concept that the Divine "name" will dwell in the house of Israel.

[405] Brown, 34.

[406] Ibid., 34. Exod. 16:10; 24:26; 24:17; 33:22; 42:34-5; Lev. 9:23; Num. 14:10,21; 16:19,42; 20:6; Deut. 33:17; 1 Kings 8:11; 2 Chron. 5:14; 7:1; Isa. 2:10, 19, 21; 3:8; 35:2; 40:5; 41:16; 42:8; 43:7; 46:13; 48:11; 60:1; 63:15; Ps. 24; 98:7; 102:16; Ezek. 1:28; 3:12,23, 28; 8:4; 9:9; 11:22; 43:2f; 44:4 (or the glory of the temple: Hag 2:3,7; Zech. 2:5,8); Acts 7:2; 1 Thess. 2:12; 1 Cor. 10:31; 2 Cor 4:6; Gal 1:5; Phil. 1:11; 2:11; Rom. 1:23; 6:4; 9:28; 11:36; 15:7; Luke 9:36; Eph. 1:7; 3:16; Heb. 9:5; 1 Pet 4:14; Jude 24; Rev 15:8.

[407] Rev. 9:36.

[408] Ps. 3:3; 30:12; 37:8; 62:7; 64:10; 73:24; 89:17; 96:7; 108:5; Ezek. 39:21.

[409] Isa 6:3; 58:19; Ps. 72:19; Hab. 3:3; Ezek. 31:18; 1 Cor 15:40; 1 Pet 1:24.

The concept is however more specifically Gnostic. The earliest association of Jesus with glory in the NT is Paul's employment in 1 and 2 Corinthians. In 1 Corinthians, Paul states that Jesus is the Lord of glory (1 Cor. 2:8),[416] then in 2 Corinthians, in very Gnostic terms he relates Jesus with light, specifically stating that he is the image of the invisible God, one who makes God visible and this visibility is accomplished through "the light (*photismon*) of the gospel of the glory of Christ" (2 Cor. 4:4). That Jesus is the image of the invisible God is also found in the deutero-Pauline hymn of Colossians (Col. 1:15). In the Gnostic Apocryphon of John, the Monad looks into water-light which surrounds him, sees his reflection, and his thought produces the first Aeon of light from which all divine realms proceed. The only begotten child is a product of this reflection when the Monad looks at the first Aeon, and from Light with light the child emerges.[417] In the Apocryphon of John, the only begotten child is a reflection of the image of the Monad. For the writer of the Prologue to the Gospel of John, the glory we see is of the *monogenous* coming from the Father in v.14 and in v.18, the *monogenes* god. The idea that a god comes from the divine and reflects glory from the Eternal realm of Light is a Gnostic concept.

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[410] Ps. 8:1; 19:1; 63:2; 1 Cor. 15:40-1; 2 Cor. 1:20.

[411] Ps. 108:5; 113:4; 148:13; Luke 19:38.

[412] Gen. 45:13; Exod. 8:9; Ps. 3:3; 4:2; 8:5; 16:9; 30:12; 57:8; 62:7; 90:16; Prov:16:3; 17:6; 20:29; 25:27; 28:12; Isa. 13:19; 14:18; 16:14; 17:3-4; 20:5; 21:16; 22:18,24; 23:9; 35:2; 62:2; 66:12; Jer. 2:11; 13:11; 48:18; Hos. 4:7; 9:11; Dan 4:36; 5:18,20; Matt. 4:8; 6:2,29; Luke 12:27; 1 Cor. 11:2; 2 Cor. 3:7; 5:12; 11:18; 12:1,3,5,6,9; 1 Thess. 2:20; 2.4; 1 Pet. 1:24.

[413] Luke 12:24; 2 Cor. 3:7.

[414] Brown, 34; Haenchen, Luke 9:26, 31-32; 24:26; 2 Pet 1:16-18.

[415] Brown, 34.

[416] Also found in 2 Cor. 10:17. For the Deutero-Paulinists: 2 Thess. 1:9; 2:14; Eph. 1:12,14; Col. 1:27; and in Jas. 2.1; Heb. 3:3. Other concepts of glory related to Christ are that he has received glory from God 2 Pet. 1:17. He attained glory in the ascension 1 Peter 1:11,21, and the afterlife Mark 8:38; 10:38; Matt. 19:28; 1 Tim. 3:16; 1 Pet. 5:11. And he will return in glory Mark 13:26; Matt. 24:30; Luke 21:27; 1 Pet. 4:13.

In v. 14, the *Logos* who comes from the Eternal Realm is referred to as *monogenes.* While *monogenes* is translated "son" in the Nestle-Aland, it is literally one of a kind *genous,* or type, coming into being. In v. 18 this is specified further, one of a type of *theos,* God. In Greek culture, heroes who sacrificed themselves for the people were described as ascending after death and referred to as gods, while the concept of reincarnation is found among some Greek philosophers such as Pythagoras, Pindar and Empedocles. The writer carries forward these cultural ideas, but proclaims Jesus as a one-of-a-kind god, while emphasizing his pre-existence, an advancement in status from the general idea of reincarnation. This image of the *monogenes* god in the prologue coincides well with the Gnostic view expressed in the Apocryphon of John of the only begotten child from the Monad. He is "with" the Father, "coming from" the Father, and in v. 18 specifically from the *kolpon* of the Father. *Kolpos* is defined first as the bosom, and in Euripides, the womb; secondly, the fold formed by a loose garment, which may serve as a pocket, and thirdly, any hollow, as in the deep hollow between waves, as in Homer.[418] *Kolpon* rendered as pocket as in the fold of a garment conveys the sense of deep closeness to God. *Kolpon* as hollow between waves conveys the sense of movement outwards from the Divine. The glory of the *Logos* is portrayed as intimately issuing forward from the Divine Light.

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[417] *Apocryphon of John* 6.10-20.

Another Gnostic concept is expressed in v.16: and from his "fullness," *pleromatos,* have we all received grace upon grace. *Pleroma* is often used in Gnostic texts to describe the spiritual realm. For the writer of the Prologue, this fullness is the source of grace for the receivers. An earlier concept was expressed by Paul in 2 Corinthians 3:18, "we are being changed into the same image from one degree of glory to another, this is from the Lord." While Paul does not mention grace specifically in 2 Corinthians 3:18, like John he expresses a process of receiving divine energies as an "out-flowing"[419] from the Lord. Isaiah 66:12f expresses glory in terms of an out-flowing as well. In John 1: 9, this out-flowing of the *pleroma* was expressed in terms of light and enlightenment from the *Logos*. Between the Divine overflowing fullness and humanity is the *Logos* as connective bridge who conveys divine light, truth, grace, and glory.

Light and glory are specifically associated in Isaiah 58:8; 60:1-7; 19, while in Ezekiel 10:4 and Luke 2:9 the glory of the Lord is expressed as shining, a quality of light. It is also associated with the qualities of wisdom (Prov. 3:35; 4:9), knowledge, (Hab. 2:14), power (1 Chron. 29:11; Dan. 2:37, John 2:11) and grace (Ps. 84:11; Eph. 1:6), with grace defined as goodwill bestowed. In the Prologue the link is made between the terms glory, light, shining, grace, truth, and enlightenment. All qualities are associated with God's essence in the Hebrew Bible. God's essence is conveyed by the *Logos*, who is described as intimately connected in the beginning, conveying the qualities of God to receivers as glory, grace, light, and truth, leading to enlightenment.

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[418] "Kolpos" in *Liddell and Scott's Greek-English Lexicon.*

[419] Brown, 34.

The message of the text is conveyed not only in the words, but also in the form of the text. The *Logos* is linked with God and creation in Strophe I. In Strophe II, The essence of the *Logos* is described as light who will come down to enlighten receivers. In Strophe III, the receivers receive the message of the *Logos*. In Strophe IV, the result of receiving the message is a conveyance of the essence of God and becoming a new creation. The *Logos*, as in the philosophy of Heraclitus, is a bridge between the Eternal and the Material, just as the writer forms conceptual links between the Strophes. The transition to become children of God is not through an interventionist act of God, but rather a connective process which includes being spiritually open and able to receive Jesus' words of light who conveys the essence of God.

Genre

The Gospel of John is a theological work, rather than a history, as gospels generally relate the history of an individual.[420] Events are arranged not in chronological order, but topically.[421] This unit of John 1:1-18 forms the introduction to the gospel of John. It has traditionally been described as a prologue, an introductory preface to the gospel.[422] Form critically, it has been regarded as a hymn based on the poetic quality of the lines concerning length, number of accents, and co-ordination.[423] As hymn and prologue, it has been called an overture.[424]

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[420] C. H. Dodd, *Interpretation of the Fourth Gospel* (Cambridge: University Press, 1958), 444.

[421] Ibid.

Setting

Copies of the Gospel of John were already in existence at the beginning of the second century.[425] The Egyptian codex P52 contains a fragment of John 18:31-33, 37-38, and is dated to 135-50 CE. More substantial sections are found in P66 and P75, dated from 175-225 CE. The early Christian tradition that the apostle John wrote the fourth gospel in his old age began to spread around 180 CE.[426] Yet, the Apostolic Fathers are silent concerning the gospel of John, they provide no quotes or discussion from the fourth gospel. There was early appropriation of the Gospel of John by Gnosticism. Heracleon, who was a disciple of Valentinus, wrote the first allegorical commentary on the Gospel of John.[427] "The beloved disciple" appears late in the Gospel of John and then infrequently. [428] Brown's thorough discussion of the stages of the writing of the gospel of John place its final redaction at 90 to 100 CE, though it is not referenced by other writers until later in the second century.[429] Second century tradition sets the writing in the Greek city of Ephesus, where Paul had established a church, though Paul never mentioned John being in Ephesus.[430] Affinities to Pauline Gnostic concepts in the Prologue have been indicated above, as well as affinities to the concept of the *Logos* found in Heraclitus, also from Ephesus.

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[422] Brown, 18.

[423] ibid., 21.

[424] Ibid., 18.

[425] Haenchen, 6; Brown, lxxxii.

[426] Haenchen, 6.

[427] Ibid., 18-19.

[428] Ibid., 19.

Intention

The intention of the Hymn is to express Jesus as the eternal *Logos* who was in the presence of God, in intimate personal fellowship with the Divine.[431] It is this close presence cited in the text that the *Logos* takes on added significance.[432] It is about union, and a rejection of patripassianism.[433] The term Christ and son of man are not used in the hymn, not until after the creation; "in the beginning was the son, does not work, only *logos*," states Haenchen.[434] There is a "covert subordination" of the *logos* to God.[435] The intention of the Redactor, who has placed the insertions of vv. 6,7,8,15 into the hymn, is primarily to indicate that John the Baptist is not the *Logos*, and in v. 8 it states explicitly that John is not the Light, implying that Jesus is. The intention of vv. 8 and 15 is to contrast the role of both John the Baptist as witness and Moses as law giver to the role of Jesus as *Logos* and Light who comes from the intimate presence of God to bring grace and truth transforming receivers into children of God. The insertion of v.12c is a formula stemming from the early Church.

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[429] Brown, lxxxvi.

[430] George Lamsa, *Gospel Light* (Covington, GA: Aramaic Bible Society, 1999), 393.

[431] Haenchen, 109.

[432] Ibid.

[433] Ibid., 110.

[434] Ibid.

[435] Ibid., 109.

In the Prologue of the gospel of John, Jesus as *Logos* reveals God. A human being reveals God,[436] whereas in the concept of the *Logos* from the philosophy of Herclitus, Nature revealed God. In the philosophy of Stoicism, the Logos is throughout the Cosmos, while the *logoi spermatikoi* are in individual forms in Nature, including human beings. In Gnosticism, a reflection of the Monad comes down to reveal the Light and Mind of God to those who dwell in darkness, offering enlightenment. The writer of the Prologue extends these concepts to Jesus as revealer of the divine *Logos.* As revealer of Reason from the Divine Light, the *Logos* effects a transformative change to those who are able to receive what he offers. As field of force, he shines forth in his essence, his words, and the later traditions which have developed concerning him continue this shining into the future. According to the writer of the Prologue, what he offers is enlightenment and re-creation by a conveyance of the divine essence.

An Application of Contemporary Science to John 1:1-18

In this text Jesus is equated with the *Logos* and with Light which enlightens those who are able to receive him as such. This enlightenment is a power which transforms those who receive into sons and daughter of God. While we generally think of enlightenment as a metaphorical concept, the findings from Neurology and Complexity Theory indicate that the term enlightenment is actual.

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[436] MacRae, 33-34.

The words of Jesus, and the words of those who proclaim him, first travel as sound waves to those hearing the message. As the waves of energy travel through the ear, they are converted into electronic pulses to be received by the cortex. This electromagnetic energy carries the encoded message of the Word spoken. The message literally becomes light in the receiver. According to Neurological studies, brain matter is not inert, but grows being fed on new information. As new information is learned in life, new dendrites grow and branch out. At the end of each dendrite is the synaptic structure which receives information. The more dendrites, the greater is one's ability to be receptive to further information. As education and experiences in life shape the neuronal scaffolding causing more dendrites to grow, a person will literally be more able to receive information. The dendritic scaffolding in the brain houses the microtubules through which photons of light flow, the electromagnetic pulses of coded information. Information becomes light in the brain. As new dendrites grow, a new creature emerges. One who is nourished on the words of enlightenment becomes literally and figuratively more enlightened.

Jesus of Nazareth himself lived a life with a particular nexus of experience which in turn has created a unique scaffolding of neural pathways in the brain, as each individual has a unique set of dendritic configurations. Through these neural pathways flow the electronic pulses, photons, actual light, which allows for mental processes.[437] The communication between cell to cell, not just for the brain, but throughout the entire body, is achieved by means of photonic exchange, literally light exchange.[438] Jesus, equated with light in this text, radiates the particular enlightenment he has received in his lifetime. This shining essence is said by the writer of the prologue to be of the essence of the Divine.

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[437] Lynne McTaggert, *The Field: The Quest for the Secret Force of the Universe* (New York: HarperCollins, 2002), 92.

The ability to be "receivers" of information depends upon the dendritic structure in the brain of the receiver. In order to be receivers, one's neuronal scaffolding must be prepared through the reception of previous information which has also altered the brain. Our visual senses receive waves of information from photons. In early life, basic spatial patterns are learned.[439] These patterns become encoded in memory.[440] Intricacy of patterns are learned and recorded in the various regions of the brain. These patterns are later linked to meaning. In the prologue, John the Baptist functions as one who prepares the way. What the Baptist's proclamation offers according to earlier gospels is the need for repentance, a turning away from that which is not of the Eternal.[441] Jesus then brings the message of the Eternal. He is equated with the Eternal *Logos*/Word/Reason, and as messenger of Light, as literal Light bearer, he conveys the information which is said to transform "receivers" into children of God, sons and daughters of the Light.

From the science of Complexity Theory, the brain is a "complex dynamical system" displaying "emergent properties at higher levels that depend on lower-level phenomena."[442] Most of the brain's neurons are in the cerebral cortex, the outer layer of the brain.[443] The cerebral cortex is intricately folded, organized into a set of organs. Each neuron is a single cell from which issue numerous fibers. The dendrites are the neurons receiving channels; the axons are the transmission lines. When the axons from a neuron link up with another neuron's dendrites there is communication.[444] The local connections sew the brain together into one connected whole. The brain also has long distance axons linking regions from across the brain.[445] Neurological studies reveal that consciousness occurs when there is activation of neurons from many regions in the brain which have stored memory.[446] Consciousness is an emergent state, it is neural synchronicity.[447] As new information is taken in, a person becomes more conscious, more enlightened.

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[438] Ibid., 52-3, 95.

[439] Rodney Cotterill, *Enchanted Looms: Conscious Networks in Brains and Computers* (Cambridge: Cambridge University Press, 1998), 190-98.

[440] Ibid.

[441] Mark 1:2-8; Matt. 3:1-6; Luke 3:2-6.

Regarding the concept of force field discussed above, Neurology offers an additional understanding of light that shines in the present tense. As the words of Jesus are received by his listeners in his lifetime, this information becomes literal light in their neuronal pathways. They in turn pass this information on to future generations, who then develop new dendritic material, which becomes filled with photonic light, who then pass this information onto the next generation. The light that shines in the darkness in terms of the concepts from Neurobiology, can be expressed in a scientific worldview as the dendritic material filled with light in each believer in each generation. The incarnation of the *Logos* as Jesus becomes the incarnation of the *logos* as information in each person.

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[442] Lewin, 164.

[443] Buchanan, 63.

[444] Ibid., 64.

[445] Ibid.

[446] Buchanan, 67.

[447] Ibid.

A common practice in Christian churches on Christmas eve is the candlelight service, in which the minister takes the light from the altar and lights a candle being held by an individual in the congregation, who then lights the candle of the person next to him or her, and on and on until the entire congregation becomes light carriers. They then take the light out into the world. Neurobiology offers new insights to express this concept of the *Logos* as Light which continues to shine in the present tense, transforming receivers into sons and daughters of God. How receivers become children of God is not through a supernatural act of God, but rather through a transfer of information/matter/energy, a transfer of Light.

Conclusion

What has been presented in Chapter Six is form critical exegesis of seven biblical passages on the nature of the interconnection between Spirit and matter in the format of a chiastic structure. The chapter begins with a hymn of God as Creator and ends with a hymn of Jesus as the *Logos* of re-creation of the individual. At the midpoint of this chiastic structure is a passage on music and consciousness, how Form in matter, such as the form in music gives rise to a higher consciousness. From Greek philosophy, Pythagoras regarded the ordered Cosmos, the celestial bodies as revolving around a center point in mathematical intervals, and because of their movement, postulated that sound would come forth, in perfect harmony, the music of the spheres. This well ordered universe revealed a soul, according the Plato, it was a living creature. For Philo, who regarded the Divine as even more distant than Plato, the avenue back to the Creator was through contemplation of the rational principle in nature, the *Logos*, the word. In Manichaean, Hermetic, and Mystic traditions light was often considered a manifestation of the Divine Spirit within Creation and a way to connect with the Divine through the senses, body, soul, and spirit, as the senses were shown to be the receivers of light, electromagnetic energy. From Neurological studies, it was shown that light was within the brain itself, as well as the conveyor of information from the world of matter. The more one took in information from the outside world, the more one became conscious. The light grew within, fed by the light in the cosmos. In Genesis 1, light is the first creation of the world and an intimate part of all creation. In John 1, Jesus is the Light-bearer who came down from the Father of Lights. In the center of the chiastic structure of this chapter is a passage on consciousness, enhanced through the formal structure of music, leading to enlightenment. The picture of the Cosmos presented here is a Creation ontologically dependent upon light which leads to our enlightenment.

Structure of Exegetical Units as Presented

A. Creation of Cosmos. Light as first creation. Creatures made in creative Image of God
  B. Connection to the Divine through the unconscious, which is connected to the All
    C. Connection enhanced. A double share of the Spirit dependent upon senses
      D. Connection through prophecy and music enhancing consciousness
    C'. Connection through enhancement of the re-generated soul
  B'. Connection through consciously focused prayer, in connection with others

A'. Connection through the Light-bearing *Logos* who re-creates receivers.

In the analysis of Genesis 1 presented above, God was presented as nurturing creation into existence, with Light as the first creation. God speaks over the waters, and light appears, then God separates the mix, forming time, day and night. This Light, while not sunlight, is a constituent of Nature. Throughout the creation process, an increase in Form is witnessed. This is literally creation as in-formed; an increase of in-form-a-tion accrues. Nature is created as dynamically productive, it has a creative energy. At the most fundamental level there are seeds within, which are filled with creative dynamic potential. God provides habitats for each creation prior to their placement, and it was suggested that this too is an indication for God as nurturing, and calls for the inhabitants to create nurturing environments to support spiritual growth. Nature itself displays the properties of the Creator, as intelligent, dynamic, (called to be) nurturing, and associated with Light at its foundation. The interconnection between Spirit and matter is that all of Nature is a microcosm within a macrocosm of the Divine creative energies.

Genesis 37 presents the connection from the Divine Spirit to humans through the most fundamental level of human nature, the unconscious. The unconscious, through dreaming "relates us to the environment beyond ourselves" including God; dreaming is a religious process, according to Jung.[448] As research from quantum physics and Complexity Theory reveal, all entities are able to predict the future to a degree based on data from their environment and the mechanism of internal modeling. The interlocking levels of creation, and repeated patterns become part of the information processed in the unconscious. The unconscious absorbs information from the environment, extrapolates the data, and with heightened energy, may at times present a vision which transcends time.

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[448] Sanford, 59.

In 2 Kings 2, the prophet Elisha is said to receive a double share of the spirit, understood as God's Spirit, which is dependent upon what he sees. What he witnesses is the ascension of Elijah, both a physical event and a vision combined. Neurological studies show that, contrary to the mechanistic view of matter, brain material grows in association with stimuli from the environment. What we see enters the retina as photons. These photons actually change the internal scaffolding of the neural networks. Information from the environment taken in through the senses creates more dendritic material allowing for more synaptic connections. The more synaptic connections we have the more conscious we become, as more regions across the brain communicate with each other. The mind as an emergent phenomenon of the brain grows in consciousness dependent upon information received from the environment. Spirit has historically been associated with mind, and so there is a direct link between information seen in the environment and a more developed brain, mind and Spirit.

2 Kings 3 offers the Spirit to matter connection in terms of music enhancing prophecy. According to Ellington, music and religion both have a transformative power and when the energies of both are focused on the same object, intensification reaches a peak greater than either might achieve by itself.[449] As sound waves enter the ear and are converted to electrical pulses, they are received by the auditory cortex. Rhythmic pulses stimulate autonomic and limbic responses, which relax the limbic system. The pulses of

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[449] Ter Ellington, "Music and Religion" in *The Encyclopedia of Religion*, 2nd ed., 6252.

photons as light, travel to the hypothalamus, the primal center of the brain. Meanwhile, one who is meditating intentionally clears the attention center of the mind, which pushes the photonic pulses again to the hypothalamus. Both the meditation effort and the rhythmic pulses cause an overload to the hypothalamus. While the attention center becomes starved of electromagnetic energy, the individual may loose a sense of time and space, and feel a oneness with his or her environment. This opens a door to the beyond, a hyper-suggestible state. The unique brain scaffolding of each individual is dependent upon past experiences, while consciousness has been described as an emergent phenomenon dependent upon information received. A prediction of the future, possible for all creatures, would depend upon modeling from environmental data and the unique history of experiences for each individual.

In the case of Elisha, Jehoram is standing in front of him, with his family history and current needs. Elisha is not prophesying in a vacuum. In a heightened state of consciousness,[450] experiencing a oneness with the All,[451] he first calls water into existence (addressing the needs of the kings and animals). Research was presented from Lipton and Emoto who addressed the reality of effecting physical change upon matter through focused words and thoughts. Austin had described that in the highest state of meditative consciousness, things happen with a light touch as the experiencer is connecting with the All. Elisha then offers a prophecy which becomes both a divine trap and heightened wisdom. Music and meditation have worked in tandem amplifying the effects of both, to render a transcendent state of consciousness, an openness to the All, both Divine and Natural.

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[450] Austin, 303

[451] Ibid.

The unit of 1 Corinthians 3:1-9 offers the insight that some individuals cannot receive spiritual insights or teachings because they are ontologically unable to receive such wisdom. Paul cites three stages of anthropological development – the fleshly, the psychic, and spirituals – and expresses that individuals at the lower levels cannot connect with the Spirit. In order to connect there needs to be spiritual growth. This growth is accomplished through nurturing proclamation, spiritual teaching appropriate for each level. According to Neurological studies, upon hearing the teaching word, the dendrite scaffolding in the brain is altered over time, and then this change is reinforced as similar material is received. The person is changed neurologically as the dendritic microtubule pathways emerge and grow, conveying photonic pulses where no photons had gone before. The internal structure of the brain is now a new creation, and the individual is experiencing a new, higher level of consciousness.

In James 5:12-20, the writer calls for the elders, the spiritually advanced to pray over the sick. These elders would conceivably be as the spirituals in Paul's categories. They are to anoint with oil and speak words of blessing over the body. Lipton's studies of the power of prayer have been brought in providing research studies of the efficacy of prayer. Emoto's studies were brought in as well, which show that praying, or simply speaking kind words over water transforms ill-shapen water crystals to strengthened beauty of form, overturning mechanistic definitions of matter.[452] The human body is over seventy percent water, and would experience a change if only to a degree.[453] Emoto's understanding was that "speaking over" adds electro-dynamic information into a system which combines with the information in the subject to achieve enhanced amplification of formation of matter. The elders as spiritually advanced would conceivably have more advanced neuronal scaffolding, more microtubules and photonic activity than the average person in the church, as described above. These (literal) light bearers are ambassadors of the Father of Light, as James specifically refers to God, and called to speak their words of enlightenment over one in need.

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[452] Emoto, *Hidden Messages in Water.*

[453] Emoto, xv.

The final unit is the Prologue of John 1:1-18, said to be a hymn of the *Logos*/Reason/Word. It presents Jesus as the Light of re-creation, able to transform those who are able to receive. Paul has already provided a description in terms of anthropological categories, of the view that some people are simply not ontologically capable of receiving advanced spiritual truths. In terms of neurological studies, the unreceptive have not developed the neural pathways sufficient to receive advanced information. With proclamation appropriate to their level, little by little, new dendrites will sprout, creating avenues to receive photonic input from the advanced words of enlightenment from a Light bearer. With increased spiritual education, more dendrites emerge, and the microtubules are filled with the light, transforming the receiver into a being filled with Light, becoming children of God, or as James would say, children of the Father of Light. Jesus as advanced spiritual human being brings teachings and displays abilities such that he is able to affect change upon matter simply through consciousness. While the historical precedent for ascension, belief in survival of the spirit after death and reincarnation were cited for many philosophies, the writer of the prologue advances such concepts to posit Christ's spirit as not only able to survive death, but as pre-existent. Similar philosophical leaps were made for the enlightened beings of Buddhism and Taoism. As enlightened human being and divine spirit, Christ as *Logos* continues to convey spiritual information in the form of Light and Enlightenment, transforming those who are able to receive such information.

The Creation account began with the movement of the Spirit which brought Light into the world, and from this, creation emerged. Light is in Nature at its most foundational level as electromagnetic energy. The Hermetic Corpus conceived of creation as filled with Divine Light. The Mystics spoke of sensing the light in Nature as reflective of the Divine light of creation. Lawrence Fagg described Nature from a scientific perspective as electromagnetic at its core, emanating this photonic information to our senses. Lipton and McTaggert described the cells of body and brain in terms of electromagnetic activity. Systems Theory described Nature/matter as energetic in its essence, while Complexity Theory described emergence of increasingly complex systems as fundamental in nature, fueled by the flow of energy, information, and matter within Nature. Kotulak described the matter in the brain as malleable and increasingly growing new neural pathways fueled by energy and information, from matter taken in through the senses. Consciousness was described as emergent, requiring photonic activity from across regions of the brain. The photonic activity is dependent upon the reception of information, and specifically words received, which literally alter the hardwiring in the brain, creating more dendrites and more synapses for the photons to travel through. The light of intuition is a product of experiences which have transformed the neural scaffolding of the brain combined with communication from different regions of the brain bringing higher consciousness.

For Heraclitus, Plato, and the Stoics, the *Logos* in Nature was understood to convey divine Intelligence. Democritus offered a theory of perception according to which objects emanate fiery particles of information taken in by the senses. Contemporary Science expresses the view that electromagnetic energy emanates from objects to inform the mind. Education of the scriptures according to Jewish philosophy, and of the rhythms of harmonies of Nature (mathematics, science, music, philosophy) according to Plato inform the mind and draw one nearer to the Spiritual realm. For Christians, this education would include the stories and words of Jesus. John 1 presented Christ, as *Logos*, and as Light bearer, who forms the bridge between the dulled, darkened, neurons of the mind and the Spirit of God, bringing enlightenment through the Word. The interconnection between dark/matter and Light/Spirit is the Word/Reason, both in Nature as the intelligent Forms of Nature, informing the mind, and for Christians, in the person of Christ, as evolved enlightened human being and as such, Light bearer, whose words, model, and essence convey en-light-en-ment.

CHAPTER SEVEN

CONCLUSION

Science and Religion have always had a symbiotic relationship and while philosophical considerations in the early modern era began a trend towards the division of the two disciplines, particularly with the rise of the dominant Mechanistic-Supernatural worldview in the seventeenth century, the contemporary discipline of Science and Religion seeks to bridge this divide by bringing the insights of science to bear on religious concepts. This dissertation has addressed the problem of the connection between the realm of Spirit/Light/*Logos* to the world of dark/matter by considering philosophical and religious cosmologies which were discounted along the historical route and bringing forward research about the nature of matter itself from contemporary science. While spirit in general has been defined as that which transcends matter, contemporary science reveals that matter continuously transcends itself. With Nature, including brain matter, described as inter-relational, energetic, light-filled, informed, and capable of transcendence, information is conveyed electromagnetically from the environment to the recipient who then electromagnetically processes this information, leading to emergent higher states of consciousness. The alternative religious cosmologies, particularly Manichaeism, Hermeticism and mystic traditions which regarded the world as not only divine, but filled with divine Light have provided the trajectory of thought for this dissertation. The solution proposed in this dissertation is that in a panentheistic Light-filled cosmology, Light emerges out of the darkness becoming the world of energetic light-filled matter; and we transcend to God by taking in information through the senses from the physical and cultural environment which leads to emergent higher states of consciousness.

The division between Mind and matter has existed since Anaxagoras and was fully severed with the concept of creation *ex nihilo*, and while matter was once considered to be divine by early Greek philosophers such as the pre-Socratics and Plato, as well as the Hermetic tradition, in the early modern era matter was denied any internal power of its own. With the sponsorship of the Church, the Mechanistic view of matter set within a Supernatural framework became dominant in the seventeenth century. Contemporary commentaries still reflect this philosophy, often rendering the connection between Spirit and matter as simply "supernatural" or remaining silent on the issue, rather than attributing power and information to matter itself as a viable part of the equation of the Spirit-matter connection. In this dissertation, it has been shown how matter, and in particular brain matter, described by contemporary science as light-filled, energetic, adaptable, relational and informed is capable of emergence, reaching higher states of consciousness. We transcend towards the Divine through emergent, higher states of consciousness.

Prior to the scientific discoveries of the sixth century BCE, the connection between Divine and human was rendered in anthropomorphic terms. New findings in mathematics and astronomy were brought to bear on cosmological descriptions in the sixth century BCE. Because of the order discovered in Nature, particularly the movements of the planets, the Divine was increasingly associated with Mind, and eventually removed beyond the spheres of the orbiting planets, beyond the realm of the fixed stars in Greek philosophy. In early descriptions, such as that of Pythagoras and

Plato, matter was described as mathematical in essence as well as divine and animated. With Aristotle in the fourth century BCE, matter is arranged along hierarchical lines based on complexity of organization. Because there was no movement observed, inorganic matter was considered not to have a soul, according to Aristotle. He did however provide a model of interconnection between the levels of matter, from the celestial to the lowest terrestrial level. Aristotle's view would be taught in the universities in Europe in the Middle Ages and adopted in the theology of Thomas Aquinas. The Aristotelian-Thomistic tradition would be the dominant theological worldview until the seventeenth century.

The early concept of Divine Mind from the classical period was expressed as *Logos*/Reason by Heraclitus as early as the fifth century BCE. In the third century, the Stoics would greatly expound on this concept. The Divine in nature was expressed as *logoi spermatikoi* in the plural, the rational principle in all nature. Philo would use the concept of the *Logos* extensively to describe creation, revelation, and mediating principles. Instead of Plato's demiurge or even *Yahweh Elohim* of Genesis 1 creating the world, the *Logos* is agent of creation for Philo. In the Hebrew Bible and intertestemental literature, Wisdom is present with God before the creation of the world. By the time of Gnosticism, Sophia/Wisdom and her child create not a good world, but a counterfeit world ruled by the archons of Fate, the ruling planets. A light-bearer from beyond the ruling celestial bodies is needed to redeem the enslaved. In the Prologue of the Gospel of John, Jesus is equated with the *Logos* who has come down from heaven. Justin Martyr regarded the *logoi spermatikoi* of the Stoics as sprinkled throughout history, equating this concept with the wisdom from the classical philosophers, the law and prophets of the past, with the full expression of the *Logos* in Christ. The *Logos* as Christ would become the mediating principle for Christians. The language of *Logos* would increasingly give way to "Son of God" terminology and by the Nicene Creed in 325 CE, the terminology of *Logos* disappears in favor of Son of God. The concept of *Logos* as Reason in Nature and mediating connective principle to the Divine and as reflective of the Divine is replaced in Christian theology with Christ as first *Logo*s, then Christ as Son of God. In the Mechanistic-Supernatural Christian worldview, Christ is the mediating principle between the Supernatural and Natural worlds through the Holy Spirit and the scriptures illuminated by the Spirit. The Mechanistic worldview was sponsored by the Christian Church precisely to support the view that any "miracles" (non-Newtonian motion) occurring in Nature are to be associated with Christ as mediator.

The alternative tradition of matter understood as having its own inherent power and intelligent principle has existed all along since Thales, who considered matter to have its own generative power. For Plato and the Stoics, matter and the world was divine. While matter was considered a dark controlling power for the Gnostics, in Manichaeism Nature is regarded as a mixture of Divine light and darkness. This light can empower, such as the light in vegetation, as well as the light of heavenly bodies which acts as a beacon calling us home to the pure Spiritual realm of Light. In Hermeticism, matter and the world is divine, light-filled, and empowered; it is God manifested. This view would have a resurgence in the Italian Renaissance because of its positive view of matter and particularly the transformative power found to be in matter itself. For the Mystics, the light, energy, and healing power within Nature, reveal the Light of God as connective element.

Research from the contemporary sciences of Quantum Electrodynamics, Complexity Theory, and Neurobiology reveal a view of matter as light-filled, energetic, informed, adaptable, relational and capable of transcending its former state. For Quantum Electrodynamics, the quantum field is comprised of light particles which give rise to the world of matter. As particles come together they form the visible world of matter, while all matter contains energetic light particles. Bonding which causes the build-up of matter is possible due to electromagnetic exchange of light particles on the outer edge of atoms and molecules. All matter, even at its most elementary level carries energy and information. Proteins and organisms emerge due to this same exchange of electromagnetic material. Complexity arises as matter, information, and energy are taken in from the environment. The things of Nature that we observe have reached a relative steady state. However, in the evolutionary process over time, new things continually emerge when a critical stage occurs in a natural system due to the influx of matter, information, and energy which overloads the steady state. A new emergent Form arises, transcending its former configuration. The new emergent system is not just the sum of its parts, but contains new features, requiring new vocabulary. Emergence is ubiquitous in nature, and comprises all levels of Nature including the human brain, social organizations, and Culture.

Consciousness within the human mind has been described in terms of emergence. As information is taken in from the environment through the senses, it is converted to electromagnetic pulses. The electrical signals travel through the dendrites in the brain and create new dendrites. The more information from the environment, the more the neural network in the brain is increased. Consciousness requires information from various regions of the brain at the same time to merge together into a coherent form. Theoretically, the more dendrites, the more consciousness. Consciousness of God's presence or knowledge of Divine has historically been associated with studying, contemplation, and meditating, in particular this view is found in Plato, Philo and the Mystics. According to studies from Neurobiology, such practices increase neural pathways, as education of any topic does. The information traveling through the brain, in particular the microtubules of the dendrites, is in the form of photons, i.e., light. The more information one receives, the more light one literally has traveling through the brain, and one becomes literally en-light-en-ed. When the subject of information is God knowledge or Christ knowledge, then there may be emergence of God consciousness or Christ consciousness. This is enlightenment, both literally and figuratively. Likewise, as one is meditating in Nature, the information received is from the forms in Nature itself, generally considered by theologians to be a creation from the Divine Mind, emitting electromagnetic information, and this is what is received and taken into the microtubules in the brain. In a panentheistic Light-filled cosmology, we transcend to God by receiving through the senses, information and energy emitted from matter itself. In this way, Nature, as well as spiritual education, and bearers of spiritual teachings, are sources of light and enlightenment of God consciousness.

Indications for future research:

Greek classical cosmologies were developed in response to Babylonian astronomy and mathematics. These cosmologies expressed models of three dimensional space, with a fourth dimension of time. Christian theological tradition incorporated these models. The recent investigations into String Theory yield (at the current writing) cosmological models of eleven dimensions. This opens up a vast array of possibilities for exploring further the connection between the Divine and the world.

Both Pannenberg and McTaggert's work indicate Time in their discussion of the Divine. Two biblical texts also indicated that exploring alternative dimensions of Time may be a viable avenue of research (Genesis 1 and 2 Kings 2:1-18). For Genesis 1, because our sense of Time is associated with matter, and the intuitions of the writer of the text describe God's Spirit existing prior to Time, as described by Philo, investigating other dimensions of Time as offered by String Theory may provide valuable insights for Theology. Because the text of 2 Kings 2:1-18 suggests that movement through space and time is important to this text, to better understand the ascension, besides research into mobility, research into the various dimensions of Time might again provide a fruitful avenue of investigation. The alternative traditions which do not posit a sharp divide between the Divine and matter, such as Stoicism, and particularly Hermeticism, provide the historical precedent for regarding matter, and by extrapolation, other dimensions of Time as part of a Divine Space-Time continuum. The Mystics, as described by Austin's research, also describe experiencing another dimension of Time, in that they lose a normal sense of place and time. It is said that the center of the brain for locating oneself in place and time is deactivated, but the brain is the product of evolution for mammalian development in earth's configuration of time. Quantum Theory also describes quanta coming in and out of existence, while String Theory allows for other dimensions of reality. For these reasons, the Nature of Time in terms of other dimensions of reality offered by String Theory in tandem with biblical intuitions suggests a viable area for future research.

Related to this is the electromagnetic character of matter itself. Electrons as foundational to matter, vibrate. All matter emanates electromagnetic energy which is taken in through sense receptors by the observer. This information is relayed throughout the brain, physically altering the neuronal scaffolding over time. We become what we observe, study and contemplate. This suggests that the individual's unique electromagnetic signature is altered overtime as well. Emoto had brought in the concept that each individual has a unique vibrational frequency. Theoretically, enlightened beings then would have a significantly different electromagnetic signature than that of a pre-enlightened state. While studies indicate that consciousness, that is, thoughts in the brain as the brain is an electromagnetic corpus, can alter matter, investigating the mind/spirit in terms of frequencies would theoretically advance the field of the spirit - to - matter connection. As time is related to matter and matter is electromagnetic in nature, research into electromagnetic wave frequencies and time together would be indicated by this study.

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